Authoritarian regime type, oil rents and democratic transition

Investigating the oil curse

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Abstract

The relationship between oil wealth and the probability of democratization has been widely investigated through the last decades. The negative effect that oil seems to have on the probability of democratization is named the oil curse. Even though the subject has been investigated by many researchers for several years, the effect of oil on the probability of democratization in different authoritarian regime types has not yet been studied statistically. This thesis investigates how oil rents affect the probability of democratization in three different authoritarian regime types: limited multiparty regimes, military regimes and one-party regimes. I use a cross-sectional time-series dataset covering observations between 1960 and 2010, investigating if the oil curse is valid for all three regime types and if there are differences in the effect of oil between the regime types. The results of the analysis find support for the oil curse being present in limited multiparty regimes and one-party regimes. In military regimes, oil rents do not seem to have any negative effect on the probability of democratization.

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I am responsible for all errors in this thesis.

Magnus Bjørndal

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Chapter 1
Introduction

The third wave of democratization, starting in the 1970's, has led to an increasing number of scientists investigating the causes of democratic transition. The reasons why some countries democratize and some do not are many, and thus, it is a complex field of investigation. One factor that has been negatively linked to democratization the last 15 years is natural resource wealth. The relationship between natural resource wealth and democratization has been established as negative, even though economic growth and wealth in general is associated with democratic governance.

The relationship between natural resource wealth and democracy has been thoroughly investigated by political scientists through the last decades. Most studies (see Ross 2013) find a negative relationship between natural resource wealth, especially oil wealth, and democracy (both democratic development in general and the probability of democratization in authoritarian regimes).

This negative relationship is named "the oil curse" by one of the pioneers on this field of investigation, Michael Ross. The oil curse is based on the same theoretical arguments as what is known as the resource curse, but oil is seen as the most significant natural resource in terms of political effects. This is mainly because oil is the most extracted natural resource (Ross 2012, Dunning 2008) and hence the resource which generates most wealth. Even if there are some contradictory findings (see Oskarsson and Ottosen (2010) and Herb (2005)), most studies find support for the oil curse.

Natural resource wealth has been linked to authoritarian government through two main mechanisms: first, resource wealth seems to stabilize authoritarian regimes and decrease the probability of democratic transition, second, resource wealth seems to be negatively correlated with democracy score in low income countries (Ross 2013: 8).

In more detail, the oil curse seems to work through three causal mechanisms, on which I base the theoretical framework in chapter three. The three causal mechanisms are: the rentier effect, the repression effect and the modernization effect (Ross 2001).

When investigating democratic transition, the type of authoritarian regime is of importance. One variable may promote democratic transition in one authoritarian regime type, without having the same effect in another regime type. Different authoritarian regime types can be as different by design as democracies and autocracies, and they tend to break down and democratize in systematically different ways (Geddes 1999, Hadenius and Teorell 2007). The aim of this thesis is to investigate if the oil curse is valid for three different authoritarian regime types; military regimes, one-party regimes and limited multiparty regimes, and if the effect of oil is stronger in any of the regime types than in one of the others.

In the next section I introduce the contemporary relevance of my investigation; the puzzle. Then I explain this thesis' contribution to the field of investigation, before I present the research question. In the last part of the chapter I introduce some of the essential concepts of the thesis.

1.1 The puzzle

The puzzle starts with the general assumption that natural resources lead to economic development which in turn is thought to be positive for the probability of democratization. The relationship between economic development and democracy is still complex and to some extent uncertain. Even thou many scholars have argued that economic development promotes democratization (Lipset 1959, Huntington 2012, Przeworski et al. 2000), the causal relationship could as well be reverse. The positive effect economic development seems to have on democratization, is somehow negative when this development comes from natural resources (Ross 2001: 1). The causality in this case cannot be reverse (McFaul and Stoner-Weiss 2008); the democratic situation cannot affect the occurrence or prices on natural resources. Hence, there has to be some mechanisms which make authoritarian regimes stabilize because of natural resource revenues. In order to get more knowledge about the social economic consequences of natural resource wealth in authoritarian regimes and about democratization processes in general, research on these fields is important.

Russia after 2000 serves as an example of how oil revenues can stabilize regimes and allow increased authoritarianism according to several researchers (see McFaul and Stoner-Weiss 2008 and Gustafson 2012). Increasing oil prices after 2000 led to large revenues Putin could use to crack down on co-opt independent sources of political power and by off or repress opposition forces (McFaul and Stoner-Weiss 2008: 81). Cracking down on co-opt independent sources of political power and buying off opposition is part of what Ross (2001) calls the rentier effect, which means that oil money is used to reduce taxes, spend on patronage and prevent group formation all in order to relieve social pressure that can lead to demands for greater accountability. As Gustafson (2012) points out that: "The spectacular growth of state income generated by oil has helped keep Putin in power, enabling him to secure the support of key interest groups and maintain, at least until recently, a high level of popularity" (Gustafson 2012: 84).

According to McFaul and Stoner-Weiss: "The data does not support the popular notion that by erecting autocracy Putin has built an orderly and highly capable state that is addressing and overcoming Russia's rather formidable development problems" (McFaul and Stoner-Weiss 2008: 77). First, the security situation has worsened under Putin. Second, public health has not improved during the last eight years, despite all the states revenues, health spending has gone down as percentage of GDP since the 1990's. No communicable diseases have become the leading cause of death and alcoholism account for 18 percent of deaths for men between 25 and 54. Third, Russia's international ranking for economic competitiveness, business friendliness and corruption have fallen, and property rights have been undermined (McFaul and Stoner-Weiss 2008), all during years of ever higher oil income. This is what Ross (2001) calls the modernization effect. The argument of the modernization effect is that revenues from natural resources are not causing the social and cultural changes that usually connect economic development and democracy.

Large income from oil and high oil prices have made it possible for Putin to stay in position and gain popularity. The effects of an oil based economy is especially evident in Russia and several other limited multiparty regimes where the leader have to balance between repression and staying popular among a relatively large share of the population.

The example of Russia illustrates how oil revenues can stabilize a limited multiparty regime (Mc Faul and Stoner-Weis 2008), and that oil money in some cases can be more important for regime survival and popularity than most other factors. I consider todays Russia as a prime

example of the oil curse in the light of Mc Faul and Stoner-Weis' arguments. This thesis investigates if the oil curse is present also in limited multiparty regimes in general, and in one-party regimes and military regimes. In chapter three I will discuss the theoretical frameworks of oil and democratization in the three regime types in detail.

1.2 My contribution

The aim of this thesis is to investigate if the oil curse is present in the three authoritarian regime types: limited multiparty regimes, military regimes and one-party regimes. The point of departure is the preconception that oil rents are negative for the probability of democratic transition in authoritarian states. The relationship between oil wealth and democratic transition has been investigated by several scholars; see (Ross 2001, Ross 2012, Herb 2005, Tsui 2010, Aslaksen 2010 and Smith 2004), and most studies find support for the so called oil curse, meaning that oil wealth is impeding democratization.

Research on the probability for democratization in different authoritarian regime types (oil not considered) shows that different regime types tend to democratize in different patterns (See Geddes 1999 and Hadenus and Teorell 2007). With that in mind, I argue that the effect of oil on the probability of democratization is also likely to be different in different regime types. How oil rents affect the probability for democratic transition in different authoritarian regime types however, is (to my knowledge) not studied in a large N study. The thesis will investigate this relationship between regime type and oil, and how it affects democratization. This will add further knowledge to how the mechanisms of the oil curse works, which in turn can widen the understanding of regime change in oil exporting authoritarian states.

1.3 Research question

The thesis is structured by two research questions:

1. Is the oil curse valid for the three authoritarian regime types: limited multiparty regimes, military regimes and one-party regimes?

2. Are the antidemocratic effects of oil rents stronger in some types of authoritarian regimes than others?

The first part of the research question treats the conditional effect of oil on the probability of democratic transition (dependent variable) in different regime types (independent variable). The research is limited to three regime types: one-party regimes, military regimes and limited multiparty regimes. The second part of the research question treats the comparative effect of oil between the different regime types. In chapter three, the research questions are formed into hypotheses based on the theoretical framework.

1.4 Defining concepts

In the following section I present and define central concepts in the thesis. The concepts are: authoritarian regime type, democratic transition, democracy, oil dependence and rents.

1.4.1 Authoritarian regime types

"(…) different kinds of authoritarian regimes differ from each other as much as they differ from democracy" (Geddes 1999: 121).

I will distinguish between three different authoritarian regime types, found in Hadenius and Teorell's dataset. The three types are military regimes, one-party regimes and limited multiparty regimes.

In military regimes, military officers are major or predominant political actors by actual or threatened use of force. A military regime may exercise political power either directly or indirectly by controlling civilian leaders. Regimes where persons of military background are chosen in open elections are not classified as military, if the election is not controlled by the military[1]. Examples of military regimes are Argentina in the late 1970's and Greece before 1973.

Electoral regimes are regimes which hold popular elections for parliament or executive office. Both one-party regimes and limited multiparty regimes can be electoral regimes. Elections are held in one-party regimes, but all political parties but one are banned, formally or de facto.

[1] Rebel regimes form a special subcategory of military regimes. They include cases where a rebel movement (not formed out of the regular armed forces) has taken power by military force and the regime has not yet been transformed (Hadenius and Teorell 2007: 146). Rebel regimes and other forms of military regimes will not be distinguished in the analysis.

Such elections can hold elements of competition, but only among individual candidates (Hadenius and Teorell 2007: 147).

In one party regimes, all political parties are forbidden (formally or de facto) from taking part in elections except one. A small number of non-party candidates may be allowed. Competition among candidates from the same ruling party may also occur. For a regime to be classified as a one-party state, elections must be held. It is not enough for a regime to call itself a one-party state like Cuba did before 1976, before a constitution required one-party elections to be held. Cuba therefore qualified as a rebel regime until from 1959 to 1976 (Hadenius and Teorell 2007: 147).

Limited multiparty regimes hold elections where at least some independent or opposition candidates can participate. This classification also holds when a candidate voluntarily refrains from participating in elections as a form of protest against prevailing conditions. The point is that there is a competition between candidates, but this competition is not free and fair (Hadenius and Teorell 2007: 147). Examples of limited multiparty regimes are Russia in the 2000's and Mexico before 2000.

1.4.2 Democratic transition

The dependent variable of this thesis, is democratic transition. Linz and Stephan defines democratic transition as follows: "A democratic transition is complete when sufficient agreements has been reached about political procedures to produce an elected government, when a government goes to power that is a direct result of a free and popular vote, when this government *de facto* has the authority to generate new policies, and when the executive, legislative and judicial power generated by the new democracy does not have to share power with other bodies *de jure*" (Linz and Stepan 1996: 3). Throughout the thesis I use the concepts democratic transition and democratization alternating. I refer to it as the same thing, even though it can be argued that democratization in fact is the process of democratic transition.

1.4.3 Democracy

According to Robert Dahl's much used definition, "(…) democracy requires not only free, fair and competitive elections, but also the freedoms that make them truly meaningful (such as freedom of organization and freedom of expression), alternative sources of information, and institutions to ensure that government policies depend on the votes and preferences of citizens" (Schmitter and Karl 1991 in Diamond 2002: 21).

This thesis however uses a minimalist definition of democracy, which Joseph Schumpeter defines as: "political systems in which the principal positions of power are filled through a competitive struggle for the people's vote" (Schumpeter 1947 in Diamond 2002).

1.4.4 Oil dependence

Not all resource abundant countries can be defined as recourse dependent. Abundance refers to the stock of natural resources. Dependence refers to the flow of resources as captured by for instance export. Thus, a country can be resource abundant whiteout being resource dependent (Oscarsson and Ottosen 2010: 1069). Oil dependence can be defined as oil revenues to GDP ratio, which is how much of a states' GDP is revenues from oil (Dunning 2008: 19). The authoritarian effects of oil are stronger by resource dependence than by resource wealth per se. The intuition behind this argument is that when the whole economy is dependent on resources, conflict over distribution of rents is more important, relative to redistributive conflict over non-resource wealth or income (Dunning 2008: 62).

1.4.5 Rents

Natural recourse dependence and rentierism is not the same thing, even thou they are closely related. Rentierism is measured as the percentage of rents in government revenues. Oil rents are hence the oil to total revenue ratio. A much used definition of rents is that rents come from abroad and accrue to the government directly, and "only a few are engaged in the generation of this rent (wealth), the majority being only involved in the distribution or utilisation of it." (Beblawi 1990, in Herb 2005). It can be useful adding to the third point that not only do few people produce the wealth, but the wealth is a result of a coincidence that is

independent of any efforts made by the citizens (Herb 2005: 298). A slightly different definition is that rents is a super-normal level of profit; the economic return to natural recourse extraction that exceeds labour and other production costs (Dunning 2008: 39). The important aspects of rents are hence that the revenues from rents are independent of the states' citizens and come from exportation. The characteristics of natural resource rents exceed the definitions above. First, recourse rents tend to be relatively easy taxable. The large costs involved in the extraction of much natural recourse create a stabile revenue base that provides the state with multiple opportunities for claiming future rents (Monaldi 2002 in Dunning 2008). Second, because extraction of natural resources are capital-intensive, geographically concentrated, and export-oriented industry without widespread linkage to other production fields, the natural resource sector seems to be some sort of "enclave", divorced from the rest of the domestic economy (Hirschman 1977 in Dunning 2008). Third, there is often a separation between the landlord (the state which collects rents) and a private producer (Mommer 2002 in Dunning 2008).

The main determent whether a recourse abundant state is a rentier state or not (which leads to a high recourse to revenue ratio) is the type of natural recourses. Not all types of recourses produce rents for the public coffers. Natural recourses that are geographically concentrated, generally capital intensive in production and pose high barriers to entry for many private actors; are in turn relatively easy for the state to tax, taxing these sectors generally does not involve separating citizens from their private income. These are the kinds of natural recourses that produce rents. (Dunning 2008: 18). Crude oil is one of them. I will return to the mechanisms of rents in chapter three.

Other types of natural recourses are taxed more or less like taxing other kind of products produced by citizens. Certain minerals that are geographically diffuse and demand little in start-up costs and can be relatively easy harvested by private actors fall into this category (Dunning 2008: 18).

1.4.6 Summary

In this chapter I have presented the aim of the thesis, the thesis' research question and some central concepts. In the next chapter I will present the background for the oil curse in the literature review.

Chapter 2
Literature review

Natural recourses in general and oil in particular have been linked to authoritarianism in a large number of empirical studies. The apparent symptoms of too much resource wealth are reduction in democratic accountability, bureaucratic effectiveness, female labour force participation and rise in economic volatility, corruption and the likelihood of civil war (Ross 2013: 1). This negative effect of natural resource wealth on democracy is often referred to as the resource curse. The literature on the resource curse includes a significant amount of studies supporting this negative relationship. Some studies suggest what mechanisms are behind the resource curse and a few claim the curse to be false. This chapter begins with a review of the literature on the resource curse, with special emphasis on oil. Then I will briefly discuss the literature on democratization, before discussing the main literature on regime typology. At the end of the chapter I present Ross' suggested causal mechanisms behind the resource curse, before a discussion on oil rents different effects in democracies and autocracies. There is robust evidence that one type of mineral wealth, oil, is harmful to democratization (Ross 2013). The theoretical framework and the later analysis will therefore focus on oil. This literature review covers the general findings in the literature concerning the resource curse, democratization and regime typology. In chapter three, I construct a theory based on this literature and derive hypothesis for empirical testing.

2.1 The recourse curse

The resource curse suggests in short that wealth from natural resources is bad for democracy. A large number of books and articles analysing the effect of resource wealth are broadly consistent with the claim that oil wealth makes authoritarian governments more stable, and less likely to democratize (Ross 2013). The resource curse can be defined as "the perverse effects of a country's natural resource wealth on its economic, social, or political well-being" (Ross 2013:1). Michael Ross is the first to test this hypothesis in a large-N study. He finds support for the hypothesis, and he also finds that natural resources (both oil and minerals) do

greater harm on democracy in poor countries then in rich. He also finds that the effect is not limited to the Middle East and finds support for the causal mechanisms that links natural resources and authoritarian regimes (Ross 2001). Ross' findings are supported by several other studies (Tsui 2010, Aslaksen 2010 and Smith 2004). Other studies like: Oskarsson and Ottosen (2010), and Herb (2005) do not find support for the resource curse. A statistical meta-analysis of the oil-democracy hypothesis, which integrated the results of 29 studies and 246 empirical estimates, concluded that oil had a robust negative effect on democracy (Ross 2013). The findings produce two broad possibilities: oil could strengthen authoritarian regimes and prevent them from democratization, and it could weaken democracies and push them towards authoritarianism (Ross 2013: 8). This thesis investigates how oil rents affect the probability of democratization in different authoritarian regime types, hence I emphasize the first possibility; how oil could strengthen authoritarian regimes and prevent democratization.

In his book "The oil curse" from 2012, Ross finds that in authoritarian states, greater oil income lower the chance of democratic transition when using a logit-model with a dichotomous dependent variable for democracy. He also finds that higher oil income is correlated with lower democracy score on the polity dataset, using an ordinary least square (OLS) model (Ross 2012: 108).

Dunning (2008) tests the resource curse statistically with economic inequality as a conditional effect. He finds support for the hypothesis that oil rents can have a positive conditional effect on the probability of democratic transition (Dunning 2008), in other words that oil rents can have a positive democratic effect on countries with high economic inequality, and a negative democratic effect on more equal countries. I will return to this argument in chapter 3.

There are two types of challenges to the claim that oil stabilizes authoritarian regimes (Ross 2013). The first is that even if oil has a direct negative effect on democratic transitions, this might be counterbalanced by a positive indirect effect; the higher incomes that oil wealth tends to bring. Research on this challenge has concluded that oil's harmful direct effect on accountability is greater than its beneficial, indirect effect (Herb 2005, Alexeev and Conrad 2009, 2011; in Ross 2013). The second challenge to the claim is causal identification, meaning that the correlation between oil and authoritarian regime is endogenous or driven by omitted variables. Several studies have developed models using historical data and country and year fixed effects, but the results are ambiguous (Ross 2013).

2.2 Democratization

Democratization is a highly complex process (Huntington 2012); hence there are several variables that can causally affect democratization. This section emphasizes some of the most important variables linked to democratization.

Lipset found in his seminal studies that variables linked to economic development such as industrialization, urbanization and level of education is positively correlated with democracy (Lipset 1959). Several researchers after Lipset claim that economic development makes transition to democracy more likely; see (Huntington 2012). Przeworski et al. (2000), claim that economic development is not making democratic transition more likely, but that the positive relationship between economic development and democracy is due to wealthy countries' ability to sustain democratic. Even though several researchers find that increased wealth tend to make countries more democratic (Ross 2001), this relationship seems to have several important conditional effects. As mentioned in the previous chapter, one of these conditional effects is oil. The theory of the Dutch disease argues that natural resource wealth can even impede countries from experiencing economic development after increased revenues from natural resources (Lam and Wantchecon 2002). I return to the Dutch disease in chapter three.

According to Thomas Carothers, the underlying conditions and structures for democratic success has become increasingly evident as the third wave of democratization has aged. He emphasizes five such factors of particular importance: The level of economic development, the concentration of sources of national wealth, identity-based divisions, historical experience with political pluralism and neighbouring countries. The factors should not be seen as preconditions, but conditions that make democratization harder or easier (Carothers 2007: 24). Note that these are conditions for democratic success, and not conditions that necessarily increase the probability of a democratic transition in an authoritarian state.

2.3 Regime typology

Since the late 1970's, the period in political history named the third wave of democratization, the number of regimes that are neither clearly democratic nor conventionally authoritarian has

grown unprecedented (Diamond 2002). There are a vast number of categories that are used to label different regime types. The most frequently used categories are summed up by Larry Diamond (2002: 26) and comprise liberal democracy, electoral democracy, ambiguous regimes, competitive authoritarian, hegemonic electoral authoritarian and politically closed authoritarian. These categories classify regimes after how democratic they are, from closed authoritarian to liberal democratic.

The regime typology in this thesis however is based on institutional characteristics as outlined in the previous chapter. The difference between liberal democratic and electoral democratic is the same distinction as the difference between a broad and a minimalist definition of democracy. (The minimalist definition is used to define democracy in the analysis). Both competitive authoritarian and hegemonic electoral authoritarian can be placed in the broader category of electoral authoritarian regimes. Competitive authoritarian regimes are defined by Levitzky and Way as regimes where "formal democratic institutions are widely viewed as the principal means of obtaining and exercising political authority. Incumbents violate those rules so often and to such an extent, however, that the regime fails to meet conventional minimum standards for democracy" (Levitzky and Way 2002: 52).

Research on authoritarian regime types and democratization shows that different regime types democratize systematically different. Hadenius and Teorell (2007: 153) discover a certain pattern of transitions to democracy in different regime types. One-party regimes and military regimes rarely transition directly to democracy. They usually democratize via limited multiparty regimes (one-party regimes, however, transition directly to democracy with 21 percent probability). Pure limited multiparty regimes democratize with a 51 percent possibility.

2.4 The causal mechanisms behind the oil curse

I will now briefly describe the causal mechanisms behind the oil curse, proposed by Ross. I will return to these mechanisms in chapter 3, theoretical framework, emphasizing how I assume these mechanisms to be present in the different regime types.

Based on findings in case studies, Ross (2001) implements three causal mechanisms that link natural resource dependence to authoritarian rule. The first is the rentier effect which is based

on the argument that governments use their oil revenues to relieve social pressures that might lead to demands for greater accountability. This can occur in three ways. The first is the taxation effect which suggests that oil dependent states tend to tax the population less or not at all, and the public in turn will be less likely to demand accountability from their government. A second effect is the spending effect. Resource wealth may lead to greater spending on patronage, which in turn reduces the latent pressure for democratization. The third component can be called a group formation effect. The argument is that if resource revenues provide a government with enough money, they will use that money to prevent the formation of social groups that are independent from the state and may demand political rights.

In line with the taxation mechanism, empirical evidence suggests that resource rents tend to remove or reduce other forms of revenue, such as income taxation. Resource booms seem to alter bureaucratic development substantially with profound implications for democracy with decline in domestic taxation in general, and direct taxation in particular as the most important changes (Dunning 2008: 46).

The second causal mechanism is called the repression effect. This effect builds on argument that citizens in resource rich countries might want democracy just as much as people elsewhere, but resource rich authoritarian states can use more money on internal security and repression (Ross 2001).

The third causal mechanism is derived from modernization theory, which holds that democracy is caused by a collection of social and cultural changes. The argument is that revenues from natural resources are not causing these social and cultural changes. These changes include occupational specialization, urbanization and higher levels of education, that in turn are caused by economic development (Ross 2001). I use these three causal mechanisms as a point of departure for my theoretical framework in chapter 3. I emphasize to what extent these mechanisms can be assumed to be present in military regimes, one-party regimes and limited multiparty regimes.

One interesting exception to the oil cures seems to be the Latin-American oil exporters that have transited to democracy during the last decades. In Latin America the effect of oil on democratization seems to be opposite from the rest of the world. Among the ten-top oil producers that have transited to democracy since 1950, the five countries that made successful transits were in Latin America: Venezuela 1958, Bolivia 1982, Argentina 1983, Mexico 2000,

and Ecuador 2002. All of Latin Americas oil producers are now democracies. Latin American countries with oil were more than twice as likely to democratize, while in the rest of the world, countries without oil were more than four times more likely to democratize (Ross 2012: 85). One reason for this exception seems to be prior experience with democracy (Ross 2012). Another reason is according to Dunning (2008) economic inequality. I include both these mechanisms as control variables in the analysis. Economic inequality is also discussed in conjunction with the rentier effect in the theoretical framework.

2.5 Oil rents in democracies and autocracies

One remaining question is how oil affects democracies and autocracies differently. This thesis focus on how oil affects different authoritarian regime types and it seems, based on the literature, that oil has a more negative effect on autocracies probability of democratization than it has on the democratic development in already democratic states, see (Ross 2012, 2013 and Dunning 2008). The impact of oil in democracies is more ambiguous, indicating that oil might be more regime stabilizing than anti-democratic (Ross 2013: 8). Several researchers find that oil has a pro-democratic effect in democracies, either by making the governments more stable, or by improving their democracy score (Smith 2004, Morrison 2009, Dunning 2008, Tsui 2011; in Ross 2013). Other studies find no evidence that oil helps stabilize democratic regimes (Caselli and Tesei 2011, Weins, Post and Clark 2011, Al-Ubaydli 2012; in Ross 2013). A third group of studies show that even if oil has no aggregate effect on democratic stability, it can under certain conditions promote the breakdown of some democratic regimes, especially in sub-Saharan Africa, or more generally among low and middle-income states (Jensen and Wantchekon 2004, Ross 2012; in Ross 2013). This issue is though unsettled because there are few oil-rich democracies (Ross 2013).

2.6 Summary

In this chapter I have discussed some of the most important findings in the literature regarding the oil curse, democratization in general and regime typology. I also presented Ross' causal mechanisms behind the oil curse, later used in the theoretical framework in chapter 3. This chapter concludes with a discussion of the different effects of oil rents in autocracies and

democracies. It seems that oil is not as harmful to democracies as to the likelihood of democratic transition in authoritarian states, and that oil might be more regime stabilizing in both authoritarian and democratic states, than anti-democratic. In the following chapter I will go deeper into the theory of the resource curse and make hypotheses for the statistical analysis.

Chapter 3
Theoretical framework

In this chapter I present the theoretical framework for investigating how oil rents affect the probability of democratization in military regimes, one party regimes and limited multiparty regimes. The theoretical framework is based on the causal mechanisms proposed by Ross' (2001, 2012). The causal mechanisms link oil rents to authoritarianism by three causal effects: the rentier effect, the repression effect and the modernization effect. I present the causal mechanisms and emphasize to what extent these mechanisms are present in the different regime types in order to investigate how oil rents affect the probability of democratization in military regimes, one-party regimes and limited multiparty regimes. After presenting the causal mechanisms, I discuss the three regime types in order to derive hypothesis about whether the oil curse is present in that specific regime type or not. In the end of the chapter, I discuss in which of the three regime types I assume the oil curse to be more or less present.

3.1 Basic assumptions

I will start this chapter with three basic assumptions which I argue are prerequisites for the further discussion about democratic transition in rentier states.

The first assumption is that politics is defined by a conflict between a relatively small group of elites and a relatively large group of masses, or citizens (Acemoglu and Robinson 2006, 2001a in Dunning 2008: 62). Natural resource booms make holding political power more valuable because political power involves control over resource rents. Rents increase elites' incentives to stage a coup against an existing democracy. Under an existing authoritarian regime, elites have greater incentives to counter mobilization from below with repression or targeted transfers of revenue, rather than democratizing (Dunning 2008: 61). Hence in an authoritarian regime with natural resource wealth, the elites have both greater incentives to work against democratization and more resources to do so. This leads to the second assumption; that incumbents want to stay in power (De Mesquita et. al. 1995). In a consolidated democracy, this means that the party in position tries to stay in power by

winning the next free and fair election. In an authoritarian state, the power holders must keep their positions by repressing or buying of opposition and potential challengers. The third assumption is that the relatively large group of masses want democracy (Acemoglu and Robinson 2006:24, 25). If the masses are disaffected with the current situation, the chance of revolt should be greater. One can then also assume that it is more likely to sustain an authoritarian regime if the masses are satisfied, and that this is easier to achieve with high state revenues.

3.2 The causal mechanisms

My point of departure for the theoretical frameworks is the causal mechanisms behind the authoritarian effect of oil rents proposed by Ross (2001, 2012). As pointed out earlier, the three causal mechanisms are the rentier effect, the repression effect and the modernization effect. I will start by discussing the rentier effect, before I continue with the repression effect and the modernization effect.

3.2.1 The mechanisms of rents

The causal mechanisms behind the argument that resource rents impede democratization are of three sorts, concerning state revenues, state expenditures and society. First, (more or less) freedom from taxes releases the state from the accountability people would demand under collection of income tax. The state may be virtually autonomous from its people, winning popularity through distribution rather than through representation and redistribution by taxing. Second, rents increase the states ability to buy off opposition. These two mechanisms are referred to as social contract in which the state provides goods and services to citizens and citizens provides state officials a certain degree of autonomy in decision-making. (Herb 2005: 298). The third component of the rentier effect is that the power holders can prevent group formation. This component implies that governments can use the rent money to prevent the formation of social groups that are independent from the state, and may be inclined to demand political rights. The state is by doing this blocking a necessary precondition for democracy (Ross 2001: 334).

The theory developed in Dunning (2008) says that resource rents can both produce a democratic effect and an authoritarian effect. Dunning argues that inequality of non-resource wealth or income strengthens the democratic effect of resource rents. This is not because inequality of private income itself is good for democracy, thus inequality itself is harmful to emergence and consolidation of democracy. Inequality can produce greater differences in terms of preferences between elites and masses over redistribution. Because poorer citizens' preference of greater redistribution is thought to be more influential in democracies, democracy is more costly to elites in unequal societies. Where redistribution is a greater concern for elites, the effect of resource rents is that the rents are moderating the redistributive conflicts, and this moderating effect is stronger than the authoritarian effects of the same rents in unequal societies. So, while inequality itself hurts democracy, resource rents temper the negative impact of inequality, *ceteris paribus* (Dunning 2008: 21, 22).

As pointed out earlier, there is a negative empirical relationship between resource rents and taxation, and lack of taxation is known to have a negative impact on the chances of democratization. There are several explanations behind the relationship between rents and taxes. One explanation is that a resource boom may affect the marginal benefit of public spending without affecting the marginal cost of taxation of private income. The resource boom gives rise to a negative relationship between rents and preferred tax rates. Another reason is that taxing is more costly for the state (by encouraging production to non-taxable activity or by promoting capital flight) than distribution of resource rents. In the absence of resource rents, states may be more willing to pay the aggregate costs of taxing their citizens, and people may be more willing to pay tax (Dunning 2008: 51).

Dunning's theory distinguishes between what he calls the direct authoritarian effect of resource rents and the indirect democratic effect of rents. Resource booms may increase the incentives to control the distribution of resource rents and decrease the attractiveness of democracy to elites. A resource boom may also reduce the redistribution of private income through taxation and thereby increase the attractiveness of democracy. The latter is the indirect democratic effect of rents. It is indirect because it works through the effect of resource rents on the redistribution of private income under democracy (Dunning 2008).

The conceptual distinction between distribution of resource rents and redistribution of private income is important to Dunning's theory of natural recourses' political effects. Recourse rents comes in to a states exchequer almost as "manna from heaven" in contrast to taxation which is

more costly and involve redistribution of income from one set of citizens to others, or from one purpose to another. Unlike the distribution of resource wealth, redistribution through taxation involves taking from someone to give to others, or give back to them in some other form (Dunning 2008: 11).

To sum up, the rentier effect in already authoritarian states can on one hand make autocrats use distribution of rents to relieve pressure from the masses, and prevent opposition and social grouping. On the other hand, resource rents can make democracy less threatening to elites because distribution of rents can make the relative poor majority wanting to tax the rich elites' non resource income and wealth less than without the rents. The latter seems to be the case especially in economically unequal societies; because the rents seem to temper the negative impact inequality has on democratization.

As a conclusion regarding the rentier effect, I assume that oil rents make democratization less likely in relatively economically equal societies, contrary to unequal societies. The Gini index measures economic inequality among citizens, where high values indicate high levels of inequality. The index runs from a minimum of 20 to a maximum of 74. Limited multiparty regimes are most economic unequal with a mean score of 41.9, while one-party regimes are most economic equal with a mean score of 34.8. Hence, I assume that the antidemocratic mechanisms of oil rents are more significant in one-party regimes than in the other regime types. The overall mean, however, are 42.6. This indicates that limited multiparty regimes and military regimes are close to the overall mean level of inequality.

Table 3.1. Mean score on the Gini index.

Authoritarian regime type	Mean score on Gini index
Limited multiparty regime	41.931
Military regime	40.776
One-Party regime	34.806
Others	41.859

3.2.2 The repression effect

Case studies from the Middle East, Africa and Southeast Asia suggest that oil wealth and authoritarianism can be linked by repression (Ross 2001). It is a reasonable assumption that the citizens in authoritarian oil states want democracy just as much as citizens in other states, but the oil wealth allow their government to spend more on internal security, and hence repress popular challengers. Ross points out two reasons why resource wealth may lead to larger military forces. One is of pure self-interest: an authoritarian government is ready to arm itself against popular pressure, given the opportunity. A second reason might be that a larger military reflects the government's response to ethnic or regional conflict caused by resource wealth (Ross 2001: 335).

3.2.3 The modernization effect

The modernization effect of natural resource wealth holds that wealth from natural resources does not entail the social changes that normally follows with economic development, and has an impact on the likelihood of democratic transition. Ingelhart (in Ross 2001: 336) argues that two types of social change have a direct effect on the likelihood of democratization: "1. Rising education levels, which produce a more articulate public that is better equipped to organize and communicate, and 2. Rising occupational specialization, which first shifts the workforce into the secondary sector and then into the tertiary sector. These changes produce a more autonomous workforce, accustomed to thinking for themselves on the job and having specialized skills that enhance their bargaining power against elites".

The theory claiming that development leads to democratization developed by Lipset (1959 and 1981), Coleman (1963), Rustow (1970) and Huntington (1984) (in Pourgerami 1988) argues that there is a positive connection between economic development and political contestation. A developed country is more likely to democratize and stay democratic. The theory has been challenged by several scholars arguing that economic development can foster new authoritarian regimes that are stronger and long lasting (Pourgerami 1988). Lipset, Rustow and Huntington specify five conditions which have to follow economic development to generate democratization: 1. Market economy. 2. Increased living standards. 3. Increased levels of education. 4. Increased social diversity. 5. Tolerance in society of diversity and compromise (Pourgerami 1988).

Przeworski et al. (2000: 137) find that the relationship between development and democracy is not a consequence of economic development under dictatorships in the way that they democratize, but that democracies are much more likely to survive in wealthy societies. They also claim that modernization theory has little or no explanatory power regarding democratization.

Hence, it might be other aspects which are more important for democratic transition than development itself. Samuel Huntington (Huntington 1991: 13) emphasizes five major factors contributing to the occurrence and timing of the so called third-wave transitions to democracy in the 1970's and 1980's. First of these factors are the deepening legitimate problems of authoritarian regimes in a world where democratic values were widely accepted, these regimes dependence' on successful performance and their inability of maintaining "performance legitimacy" due to economical and sometimes military failure. Second is the global growth of the 1960's which raised living standards, increased education and expanded the urban middle class in many countries. Third there was a transformation of national catholic churches from defenders of existing regimes to opponents of authoritarianism. Fourth, there was changes in the politics of external actors, especially the European community, the United States and the Soviet Union, and fifth the "snowball effect" from early examples of third wave democratization which stimulated efforts at democratization in other countries (Huntington 1991: 13). The third wave of democratization however was based on five assumptions about democratization, which now seem to be wrong. The first assumption was that any country moving away from dictatorial rule can be considered as moving towards democracy. The second assumption is that democratization occurs in stages: the opening, the breakthrough and finally the consolidation. Third is the belief in the determinative importance of elections. Fourth is that underlying conditions like political history, institutional legacies, economic level is not going to be major factors in either the onset or the outcome of the transition process. Fifth is the assumption that transitions making up the third wave was being built on coherent functional states. As the third wave of democratization now according to several scholars has come to an end, none of these assumptions are no longer appropriate (Carothers 2002). The first two of these assumptions are evidently not appropriate looking at the world today. The most common type of authoritarian regime today is some form of electoral authoritarian regime (Schedler 2010: 69). Second, elections have, in many cases, the function of legitimizing the existing regime more than movement in a democratic direction (Brownlee 2007).

Regarding the modernization effect of oil wealth, one legitimate question is if natural resource booms create economic growth or not. According to the well-known theory called the Dutch disease, the latter could often be the case. The Dutch disease claims that some countries experience negative economic development from natural resource occurrence (Lam and Wantchekon 2002). One mechanism behind "Dutch disease" is that great natural resource occurrence and revenues lead to a decrease in other sectors. Continued "Dutch disease" creates a massive growth in services, transport and other none tradables which affects agriculture and industry negatively. This dynamic seems to be hard to turn and a bad spiral can occur which makes a country even more dependent on natural resources (Karl 1997).

The Dutch disease helps explain why oil wealth does surprisingly little to aid other parts of the economy, and there are several empirical examples that the Dutch disease is real. After the oil booms of the 1970s, the Dutch disease hurt the agricultural and manufacturing sectors of oil exporting countries, including Algeria, Colombia, Ecuador, Nigeria, Trinidad, and Venezuela. In Nigeria, the Dutch disease devastated industries built on the export of cocoa, palm oil, and rubber from the early 1970s to the mid-1980s. Booming oil exports also led to a drop in manufactured exports in Algeria in the late 1970s, and again in the late 1990s and early 2000s (Ross 2012: 48). Although, if the income generated from oil exports is greater than the income lost in manufacturing and agriculture, the country should still be better off (Matsen and Torvik 2005).

The Dutch disease can still be harmful, regardless of the total income, if oil production has side effects that might not show up in a simple economic analysis, as for example shift of a country's economic activities from the private sector to the government. Since oil sectors are generally owned by governments, while manufacturing and agricultural sectors are typically in private hands, governments will expand and other (private) sectors will experience declining profitability and be reduced (Ross 2012: 49). For example, natural resource wealth can lead to natural resource dependence, increasing the authoritarian effect of rents (Dunning 2008: 105). The political effects of the Dutch disease will depend on the sectoral composition of the economy and the economic basis of elites (Dunning 2008: 273). The effects of the Dutch disease on democratization in different regime types are considered in my model through the variable oil rents, which is measured by the oil export to total export ratio. The size of the non-resource sectors will then indirectly be part of the analysis.

To summarize the two theories discussed above, the modernization effect and the Dutch disease; the modernization effect of oil described by Ross hinders the positive effects of economic development normally associated with democracy (even though modernization theory is controversial, as discussed). The Dutch disease means that other industrial sectors can be decreased in favour of natural resources; though most countries are likely to be better off in terms of economic development if the natural resource sector compensates for the decrease.

3.3 Authoritarian regime types and democratization

The differences between authoritarian regime types cause them to break down in systematically different ways, and this affects transition outcomes (Geddes 1999). As mentioned earlier, limited multiparty regimes most often transition to democracy, military regimes have the shortest lifespan and tend to transition to limited multiparty regimes, while one-party regimes tend to transition both to military regimes, limited multiparty regimes and democracy with approximately the same frequency. Politics in authoritarian governments involves factionalism, competition and struggle, as in all other regimes, and this competition takes different forms in different authoritarian regimes and has different consequences (Geddes 1999: 121). Different types of authoritarianism also have different prospects for survival and for democratic transition. But the breakdown of an authoritarian regime does not necessarily mean an onset of a democratic transition. (Hadenius and Teorell 2007:

Table 3.2. Democratic transitions from limited multiparty, one-party and military regimes between 1960 and 2010.

Regime type:	**Observations**	**Democratic transitions**
Limited multiparty	1454	22
One-part	810	11
Military	424	23
Other	3956	23
Total	6644	79

3.4 Military regimes

Military regimes transition most frequently to limited multi- party systems. Nevertheless, Military/one-party regimes most commonly transition into pure military regimes, indicating that the military element often is the most influential. Military/multiparty regimes, on the other hand, most frequently transition to democracy, suggesting that the plural element of these regimes tends to be the strongest[2]. (Hadenius and Teorell 2007: 152).

Table 3.3. Democratizations from military regimes 1960-2010:

Country	Year
Argentina	1972, 1982
Bangladesh	1985
Burundi	1992
Chile	1989
Ecuador	1978
Fiji	1991
Ghana	1978
Greece	1973
Mauritania	2006
Nigeria	1978, 1998
Peru	1978
Guinea-Bissau	2003
Sierra Leone	1995
Sudan	1985
Suriname	1987, 1990
Thailand	1978, 1991, 2007
Turkey	1982
Uganda	1979

Geddes (1999) offers an explanation of why military regimes seem to be the most fragile and have the shortest life expectancy. It starts with two simplifying assumptions of politics in

[2] Only pure military regimes are part of the analysis.

democratic regimes: a) politicians want to get into office and remain there; b) the best strategy for doing so is to give constituents what they want. Even if these assumptions need modification in the context of authoritarian regimes, even very repressive regimes need some support. But one can ask if potential authoritarian leaders always want to achieve office and try to hold on to power (Geddes 1999: 125). Geddes argues that this is not always true for military officers.

Research shows that officers in different countries have different ideologies and sympathize towards different societal interests, so there cannot be made any generalizations about the interests or policies that officers are likely to support (Geddes 1999). It is however apparent in the literature that soldiers place a higher value on the survival and efficacy of the military itself than on anything else (Janowitz 1960, 1977; Finner 1975, Bienen 1978-, DeCalo1976; Kennedy 1976, Van Doom 1968, 1969 in Geddes 1999: 126). Because of this, military officers will only join coup conspiracies if they believe that the civilian government prevents the achievement of their own goals, in other words only if they believe that the military institution itself is threatened. The worst possible outcome for the military as an institution is civil war where one part of the military is fighting the other. The most important concern for an officer deciding whether to join a coup conspiracy or not is then their estimation of how many others who will join (Geddes 1999: 126). It is then reasonable to assume that military officers not always want to get into office and stay there, and that this can be an explanation for why military regimes are the most fragile. The second basic assumption must then be reconsidered regarding military regimes.

Several researchers have found a negative relationship between military expenditures and democracy; see (Ross 2001, Kimenyi and Mbaku 1994 and Mbaku 1990). According to Mbaku violence is an important rent-seeking behaviour in dictatorships. Since the military has a comparative advantage in violence, the military has emerged as the dominant rent-seeking interest group politically unstable countries. In cases where the military is the dominant group and provides the dictator with protection in exchange for rents, the military will work against interest groups who can threaten the dictator's power or the military's rent stream (Mbaku 1994). One can assume that the military is the dominant group in military regimes. Given Mbaku's argument one can also assume that the more rents that are available, the stronger is this military rent-seeking mechanism. Hence, it is likely that in military regimes with high oil

export to total export ratio, Ross' rentier effect will be stronger then in military regimes with a low ratio.

Davenport (2007) finds that military governments are less repressive than other forms of autocracy when it comes to civil liberties restrictions, but they are more repressive than others when violent activities such as torture and mass killing are considered. Looney (1990) finds a positive relationship between a countries military spending and the degree of internal repression, but that military regimes not necessarily spend more on defence than other regimes. It seems that there is no certain trend regarding the level of repression compared to other regime types, but based on the findings above I assume that the repression effect from oil rents is present in military regimes, though not necessarily to a larger extent than in other regimes.

Military regimes have in general higher levels of economic development than the other authoritarian regime types (Geddes 1999). If oil rents counts for some of this economic development, one can assume that the modernization effect is present. Even though military regimes do not necessarily spend more on defence it appears that a set of socioeconomic differences exist concerning the impact of military expenditures. It seems that military regimes (but not highly militarized countries in general) systematically reduce health and education budgets with increased defence burdens. In addition it seems that military regimes, in contrast to civilian regimes with little militarisation, is less likely to solve increased military expenditures through foreign loans, but through diverting resources to defence from low-income groups (Loony 1990: 137). Regarding the modernization effect of oil rents, I assume that oil can inhibit military regimes from reducing resources to education and health despite increased military expenditures. I must add that the potential modernization effect is a highly complex issue, and the literature on military regimes concerning this issue is not sufficient to expect the effect to be more or less present.

As mentioned, military officers are most concerned about the survival and efficacy of the military itself, and may not always want to stay in office. It is likely that oil rents make it more attractive for officers to stay in power in rentier states than in non-rentier military regimes. Regarding economic inequality and the rentier effect, military regimes are not statistically far from the overall mean level of inequality. Hence, there is no reason to assume that the rentier effect will be either more or less significant for military regimes than other regime types.

Before deriving the first hypothesis, I will sum up the discussion about the causal mechanisms of oil and democratization in military regimes. I assumed above that the rent-seeking mechanisms are strong in military regimes; hence Ross' rentier effect is thought to be present. A second assumption was that the repression effect was not in general more significant than in other regimes, though military regimes tend to be more repressive regarding torture and mass killing. The theory of military regimes and government spending indicates that oil rents can make military regimes less obligated to reduce health and education budgets in favour of military spending when facing increased military expenditures. With this in mind, I assume that the general negative relationship between oil and democratization is valid also for military regimes, and derive the first hypothesis:

Hypothesis 1. The oil curse is valid for military regimes.

3.5 One-party regimes

One-party regimes are classified by Hadenius and Teorell (2007) as regimes where all parties but one are forbidden, formally or de facto. Pure one-party states show a complex pattern of change. They transition with similar frequency to three other forms of authoritarian rule: dominant multiparty systems, non-dominant multiparty systems, or pure military regimes, and with some lower frequency directly to democracy (Hadenius and Teorell 2007).

Table 3.4. Democratizations from one-party regimes 1960-2010.

Country	Year
Albania	1990
Bulgaria	1989
Cape Verde	1989
Comoros	1989
Czechoslovakia	1988
Hungary	1989
Malawi	1993
Mongolia	1989
Poland	1988
Romania	1989
Sao Tome and Principe	1990

Scholars have shown that compared to other types of autocracy, one-party regimes last longer (Huntington 1968, Geddes 2003, Magaloni 2008 in Magaloni and Kricheli 2010), suffer fewer coups (Cox 2008, Geddes 2008, Kricheli 2008 in Magaloni and Kricheli 2010), have better counterinsurgency capacity (Keefer 2008 in Magaloni and Kricheli 2010), and enjoy higher economic growth (Keefer 2007, Gandhi 2008, Gehlbach and Keefer 2008, Wright 2008c in Magaloni and Kricheli 2010: 124).

Students of one-party regimes view the ruling party as having two functions which count for one-party regimes superiority: a bargaining function and a mobilizing function. The bargaining function is how dictators use the party to bargain with the elites and minimize potential threats to their stability. The mobilizing function is where dictators use the party machine to mobilize mass support (Magaloni and Kricheli 2010: 124, 125).

Scholars have suggested several hypotheses about dictators' use of pseudodemocratic institutions, such as the party, to avoid elite challenge and enhance their lifespan as dictators. One hypothesis is that dictators can use institutions like this to distribute economic transfers and rents, and by this co-opting potential rivals (Magaloni and Kricheli 2010: 126). This can be done by using licenses, offices and access to economic resources in order to invest political

players with a stake in the rulers' survival (Wintrobe 1998, Bueno de Mesquita et al. 2003 in Magaloni and Kricheli 2010). Dictators can use the institutions within the ruling party to make power-sharing deals with potential elite opponents. The party controls succession and access to power positions, while the dictator can still change policy arbitrarily. Party cadres will support the regime only if they can be promoted into rent-paying positions. If they do not expect their positions to pay off in such ways, elites will split and the instability is more likely (Magaloni and Kricheli 2010: 127). One can say about one-party regimes that when they are well institutionalized, the ruling party should be understood as a giant patronage system which gives the citizens a personal interest in the stability and durability of the regime (Magaloni 2006, Geddes 2006, 2008, Pepinsky 2007 in Magaloni and Kricheli 2010: 128).

It seems, considering this, that the rentier effects from oil are strong in one-party regimes. Both buying off elites and preventing group formation are typical mechanisms in these regimes, and some of the explanation why they are the most stable and durable authoritarian regime type. These are mechanisms I assume will be stronger the more rents the regime has access to, because the patronage behaviour itself is based on distributing rents. In addition, the one-party state can retain stable support from the masses if buying off elites (using oil revenues) does not affect the distribution to citizens.

One-party regimes are consistently the least repressive form of autocracy according to Davenport (2007: 500). One-party regimes are less likely to restrict civil liberties and violate personal integrity. Davenport argues that there is a "tyrannical peace" in that one-party governments possess some of the characteristics of democracies that reduce repression. This is done by incorporating a greater share of the population in the political process. There is no reason to think that one-party regimes with oil rents are considerably more repressive than non-rentier one-party regimes, given the "tyrannical peace". I assume that already repressive regimes are more inclined to increase their repression using resources from oil. One can also assume, given one-party regimes' patronage and ability to build popular support, that repression is not necessary to a large extent.

The rentier effect seems to be strong in one-party regimes. The repression effect does not seem to be strong, but this is most likely because these regimes usually do not need to be very repressive. Based on the discussion above, I derive the hypothesis:

Hypothesis 2. The oil curse is valid for one-party regimes.

3.6 Limited multiparty regimes

Limited multiparty regimes with one dominant party, the most common transition is to a more competitive multiparty system, while the majority of transitions from limited multiparty regimes with no dominant party result in democracy. The typical stepstone towards democracy is thereby an authoritarian multiparty regime without a single dominant party (Hadenius and Teorell 2007: 152). Regression analyses also indicate that limited multiparty systems are more likely to democratize than other authoritarian regime types, all other possible determinants of democratization being equal (Hadenius and Teorell 2007: 154).

Table 3.5. Democratizations from limited multiparty regimes between 1960 and 2010.

Country	Year
Comoros	2003
Ecuador	2001
El Salvador	1983
Georgia	2003
Ghana	1992
Guatemala	1985
Indonesia	1988
Kenya	1997
Kyrgyzstan	2004
Liberia	2005
Madagascar	1992
Maldives	2007
Mexico	1999
Niger	1992
Paraguay	1988
Peru	2000
Philippines	1985
Portugal	1975
Senegal	1999
Serbia and Montenegro	1999
Sri Lanka	1988
Uruguay	1984

The basic feature of limited multiparty regimes is that elections take place where there is a degree of competition between parties or candidates (who choose to act as individuals), but this competition is however not free and fair. Limited multiparty regimes correspond closely to Levitsky and Way's "competitive authoritarianism" and Schedler's "electoral authoritarianism" (Hadenius and Teorell 2007: 147). "In competitive authoritarian regimes, formal democratic institutions are widely viewed as the principal means of obtaining and exercising political authority" (Levitsky and Way 2002: 52). However, incumbents violate the rules for gaining political power through these institutions to an extent that they cannot be considered democratic (Levitsky and Way 2002: 52).

Levitsky and Way emphasize four arenas of democratic contestation which are violated (one or more) in limited multiparty regimes. The most important arena for this analysis is the electoral arena[3]. Although the electoral process in limited multiparty regimes may be characterized by abuse of state power and harassment of opposition candidates, elections are regularly held free of massive fraud. As a result, these elections may be considerably uncertain. Autocratic incumbents must therefore take electoral opponents seriously (Levitsky and Way 2002: 55). These incumbents must as a consequence balance between maintain popularity in relatively large groups of citizens, and control the opposition to stay in power. Both these challenges are easier with rent money, in line with the redistribution by tax vs. distribution of rents -discussion above. Leaders in limited multiparty regimes can hence buy themselves popularity through distribution and at the same time gain democratic legitimation through the formal institutions. The argument is very similar to that of one-party regimes, and I assume the mechanisms regarding the rentier effect in limited multiparty regimes are relatively similar. Venezuela under Hugo Chaves and Russia under Putin are examples of limited multiparty regimes where an authoritarian leader has made use of oil revenues to balance between popularity among citizens and control of the opposition.

I assume that the repression effect is not as important in limited multiparty regimes as in military regimes and one-party regimes. This is because limited multiparty regimes are in general more liberal then the two other types; hence repression is not as important as a mean for staying in position. I consider limited multiparty regimes to be more liberal, simply because they allow a certain degree of group formation and opposition. This does not mean

[3] The dependent variable is measured by a minimalist definition of democracy which defines democracy as a regime with real contested elections.

that repression does not exist and cannot possibly be increased by oil rents, but I assume that the effect is not very strong.

Hypothesis 3. The oil curse is valid for limited multiparty regimes.

It seems, based on the discussions about the three authoritarian regime types, that the negative effects of oil on the possibility of democratization is stronger in one-party regimes, than in the other two regime types. The rentier mechanism seems to be significant in this regime type given the "patronage argument" and the "tyrannical peace" theory. In addition, one-party regimes are more economically equal than the other regime types which according to Dunning's theory makes oil rents more likely to have an antidemocratic effect. Based on this, my last two hypotheses are:

Hypothesis 4. The negative effect of oil on the probability of democratization is stronger in one-party regimes than in military regimes and limited multiparty regimes.

Hypothesis 5. The negative effect of oil on the probability of democratization is stronger in limited multiparty regimes than in military regimes.

Two factors that are not included in the analysis are resource ownership and revenue volatility. Revenue volatility refers to the cycles of ups and downs in resource prices on the international market (Dunning 2008: 269). Resource ownership can be crucial for the political effects of rents if the domestic elite own the resource rents and not the state (Dunning: 276: 276). I choose not to consider revenue volatility in the analysis because it is not crucial to the political effects of oil in different regime types. High resource prices can affect authoritarian regimes in the sense that the authoritarian effects of resource revenues can be strengthened because the revenues will be higher, but these cycles will be the same for any regime. Oil is mostly a state owned resource, so resource ownership is neither included in the analysis.

3.7 Summary

In this chapter I have presented the theoretical framework of the thesis. I started by presenting the causal mechanisms of Ross (2001, 2012), suggesting causal links why oil seems to impede democratization. These causal mechanisms are the rentier effect, the repression effect and the

modernization effect. I have emphasized how these mechanisms are present in the different regime types in order to derive hypotheses on how oil affects the probability of democratization in military regimes, one-party regimes and limited multiparty regimes. In the next chapter I will present the research design and dependent, independent and control variables.

Chapter 4
Research design

In this chapter I present the research design and the choice of variables. The aim of the thesis is to investigate how oil rents affect the probability of democratisation in military regimes, one-party regimes and limited multiparty regimes. The analysis investigates if the oil curse is valid for all three regime types and if the effect of oil rents is stronger in one regime type than in others.

The chapter begins with a discussion of the choice of a quantitative design, before it continues with a presentation of the statistical model. I then briefly discuss the methodological challenges of the model, including serial correlation, endoginity, multicoliniarity and missing values. In the last part of the chapter I present the independent variable, the dependent variable and the interaction variable, before I present a number of control variables.

4.1 Why a quantitative design?

The goal of all social science is inference on the basis of empirical information about the world. All research designs can be divided into four components: research question, theory, data and use of the data. The choice of research design should be the best way of answering the question of research (King, Keohane and Verba 1994: 7-17). Democratization is a complex field, and in order to investigate deeply what caused democratic transition in one particular country one need to look at that case specifically. But, in order to make general inference about how oil rents affects the probability of democratic transition in different regime types one have to investigate a large number of units. A quantitative design is the best way to make general inference about how oil rents affects the probability of democratization in the three regime types under investigation. By looking at the same countries in repeated observations of the same variables over time one is able to discover general trends about how oil rents affect democratic transition in different regime types.

4.2 Time-series cross-section data

The data used in the analysis is time series-cross section data (TSCS). Such data is a type of repeated observations of the same units over time (Beck 2001). The units in this analysis are country-years and the time series runs from 1960 to 2010[4]. The data set consists of 169 countries and more than 7000 observations. The data is based on the Quality of government dataset (Teorell et al. 2013).

4.3 Statistical model

The main concern of the thesis and dependent variable is transition to democracy. The dependent variable is based on a minimalist definition of democracy (discussed in more detail below) and takes binary values; 1 – democracy and 0 – dictatorship. The variable is lagged by one year in order to investigate democratic transition. I will return to the definition and operationalization of democracy under later in the chapter. The analysis will be a probit regression, because I do not assume there will be a linear relationship between oil and democratic transition in the different regime types. In a probit model one can estimate the probability of democratization, dependent on the variables of choice.

The basic probit model can be written: $Pr.\ (Y\ =1) = \phi\ (X \cdot \beta)$

Here ϕ is the normal cumulative distribution function, Y is dependent variable, X is independent variable and β is the maximum likelihood estimated parameter.

The aim of the thesis is to analyse how oil affects democratization in different authoritarian regime types; limited multiparty regimes, military regimes and one-party regimes. The Independent variable is authoritarian regime type. The interaction variable is oil rents. I use oil rents as the interaction variable in order to analyse if the oil curse is present in all three regime types, and if the effect of oil on the probability of democratization is stronger in one of the regime types. The interaction variable allows investigation of the conditional effect of oil rents in different regime types. A conditional effect means that the effect of one variable on

[4] The analysis is limited to the time series from 1960 to 2010 because of limited data before 1960 and after 2010.

the dependent variable can be different when interacting with one variable than interacting with another variable (Skog 2010: 51). In this case: the effect of oil on democratization can be stronger in for example limited multiparty regimes than in military regimes when the multiplicative effect of oil is included. Here, the interaction variable is in fact interacting with different categories of the independent variable. I do this by creating separate interaction variables with oil rents for each regime type.

My model:

$$Pr.\ (Y_{t+1} = 1) = \phi\ (X \cdot Z\beta) + \varepsilon$$

The probability of a state being a democracy (Y) in a given year is dependent on the type of authoritarian regime (X) measured one year before, multiplied by the effect of rents (Z), also one year before controlled for the effect of the control variables. The model can then measure the probability of an authoritarian state of a certain type with certain levels of oil rents one year, being a democracy the next year. The analysis will be done in two steps: first, I do the analysis without the interaction variable (oil rents) as a baseline analysis. Then I do the same analysis and include the interaction variable. This allows me to analyse how oil affects the probability of democratic transition in the regime types compared to when oil is not included, and how oil rents affects the probability of democratic transition in the three regime types differently.

Table 4.1. Democratic transitions between 1960 and 2010[5]:

		Dictatorship $_{t+1}$	Democracy $_{t+1}$	Total
0	Dictatorship	4,260	90	4,350
1	Democracy	53	3,269	3,322
	Total	4,313	3,359	7,672

[5] The table is extracted from democracy and dictatorship dataset (Cheibub et al. 2009).

4.4 Methodological challenges

In this section I address four main methodological challenges of the analysis. First, I discuss estimation and interpretation of interaction models. Then I address the following methodological challenges; serial correlation, endogeneity, omitted variable bias and missing values.

Interaction models are common in quantitative political science because they take into account that the relationship between political inputs and outputs varies depending on the context (Brambor et. al. 2006: 63). But in order to draw conclusions from interaction models, it is important to understand and know how to interpret these models. According to Brambor et. al. (2006: 71, 72) many papers in the political science literature treat the constitutive elements of interaction terms as unconditional or average effects, even though they are not. The reason why interaction models capture the intuition behind interaction models is because they make the effect of the independent variable X on the dependent variable Y depend on a third variable Z (interaction term). Hence, claiming that the constitutive terms represent the "unconditional", "independent" or "average" value is wrong.

Another important aspect to be aware of is that in the result table of an analysis with conditional effects one can only read substantially the marginal effect of X in the unique situations when the conditional variable Z is 0 (Brambor 2006: 74). In many cases, this is not even substantially possible. In the output of the analysis of this thesis, I will then be able to read only the marginal effect of being a military regime (compared to other regime types) on the probability of democratization when oil rents are 0. When I want to investigate the effect of oil on democratization in different regime types, this is not very useful.

If one have a multiplicative interaction model it is nearly always necessary to go beyond the traditional results table to be able to extract useful information like marginal effects. An illustrative way of doing this is by marginal effect plots (Brambor 2006: 76). To make the analysis more informative and make it possible to read the marginal effect of being one regime type (compared to one of the other types) on the probability of democratization with different levels of oil rents, I will add marginal effect plots in chapter five.

4.5 Serial correlation

If the data sample is a simple random sample, one can assume that the residuals are independent of each other. This is not necessarily true when using time-series cross-section (TSCS) data (Skog 2010: 328). In other words, in TSCS the values of a variable in time *t* are not independent from the values of t_{-1}. A country that starts exporting oil in in any given year will have value 0 every year until they starts exporting, and then they are likely to be exporting oil every year after this starting point.

4.6 Endogeneity

Endogeneity is uncertainty regarding the direction of causality, meaning that the dependent variable can affect the independent variables. One example of this is the study of economic variables' effect on democracy. It is reasonable to assume that democracy is affecting economic variables, counting for some of the effect. In the case of this thesis, I argue that the problem of potential endogeneity is not significant. First, it is obvious that democracy cannot affect authoritarian regime type. Second, democracy can affect rentierism (the amount of oil revenues as percentage of total revenues) in the sense that oil does not tend to affect democracies in such way that they become rentier states (Dunning 2008). However, the dependent variable democracy in this analysis is lagged t_{+1} in order to analyse the probability of democratic transition one year after the effect of the explanatory variables, which means that the dependent variables is not affecting the independent variables.

4.7 Omitted variable bias

Social phenomena have complex explanations. Hence, it is inevitable in all social science that variables affecting the outcome of the analysis are excluded. It is important however to minimalize this omitted variable bias. This bias can make the effects of the independent variables spurious. Spurious effects in panel data is often due to omitted variables that vary among countries, but not over time, and influence the variable which we want to explain (King, Keohane and Verba 1994: 28). Fixed effects can be a way of reducing this problem (Skog 2010). However, including fixed effects in an analysis where the dependent variable takes binary values is not a good solution **(**Beck, Kate and Tucker: 1998). By including a

number of control variables I minimize the problem of omitted variable bias. The control variables are theoretically and empirically associated with democratization, hence they control for potentially spurious effects.

4.8 Missing values

In almost any study using quantitative data there will be missing values. If the researcher does not handle missing values with appropriate methods, this will have consequences for the results. A review by King et. al. (2001) shows that approximately 94 % of researchers on party identification questions use listwise deletion to eliminate entire observations, losing one third of their data on average. This also holds for government data. This results in loss of valuable information at best, and selection bias at worst (King et. al. 2001: 49). One of my control variables (will be presented in more detail later in this chapter), The Gini index, has the most missing values of the variables in my analysis. It has only only 819 observations out of all the possible 7784. With a total number of 90 democratic transitions between 1960 and 2010 I will lose too many transitions to expect significant results by simply eliminate the entire observations. Another problem with this high number of missing values is potential selection bias. On The Gini index one cannot expect that the values are missing by random. A quick look at the data shows that the Latin American countries for some reason have much more data on this variable than all other countries from other regions which all have very few observations.

4.9 Multiple imputations

In order to solve the problems with missing values described above, I perform multiple imputations. Multiple imputation is an acknowledged method of dealing with missing values see (Allison 1999, Honaker and King 2010, King et. al. 2001). I do the multiple imputations using the Amelia View software. The idea of multiple imputation is extract relevant information from the observed portions of a data set, to impute multiple (five) values for each missing cell. These values are then used to construct "complete" data sets. Multiple imputation fills in the holes in the data using a predictive model that incorporates all available information in the observed data together with any prior knowledge. Hence, the model does

not make up any data, but predicts values based on all information in the data and incorporating into the standard errors the variation across the estimates from each completed data set (Honaker and King 2010: 563). I merge the five data sets with imputed values by averaging the values. I then use the imputed variables in the analysis.

4.10 Democracy

The dependent variable is transition to democracy. It is a dichotomous minimalist measure of political regime, and is categorized as either democracy or autocracy. The data is derived from "Democracy and dictatorship revisited" by Cheibub et al. from now on referred to as DD.

Cheibub et al. (2009) uses a minimalist definition of democracy introduced by Alvarez et al. (1996) and Przeworski et al. (2000), and based on Dahl's term "contestation" as the essential feature of democracy (Przeworski et al. 2000: 15). "Democracies are regimes in which governmental offices are filled as a consequence of constant elections. This definition has two main parts: "offices" and "contestation". For a regime to be democratic, both the chief executive office and the legislative body must be filled by elections. Contestation occurs when there exists an opposition that has some chance of winning office as a consequence of elections" (Cheibub et al. 2010: 69). This involves three features (Przeworski 1991 in Cheibub et al. 2010): First, *ex ante* uncertainty: the outcome of the election is not known in advance, second, *ex post* irreversibility: the winner of the election actually takes office. Third, repeatability: elections that meet the first two criteria are held at regular and known intervals.

The theoretical definition of democracy must then be operationalized. A regime is classified as a democracy if it meets all the following requirements (Cheibub et al. 2010: 69):

1. The chief executive must be chosen by popular election or by a body that was itself popularly elected.
2. The legislator must be popularly elected.
3. There must be more than one party competing in the election.
4. An alternation of power under electoral rules identical to the ones that brought the incumbent to office must have taken place.

There are several reasons for using a dichotomous variable for measuring democracy. One is that including other dimensions (civil liberties, political rights, freedom of press and other freedoms) like Freedom House and POLITY does, makes it harder to specify the causal mechanisms that link regime and the outcomes of interest (Cheibub et al. 2010: 73). Another reason is that a minimalist definition of democracy is compatible with various ways that political and social life could be organized. It does not attach any weight to the specific way governments are formed, political parties compete, candidates are selected, voters vote or the way justice, economy or private property is organized. Third, one does not need to view the minimalist definition of democracy as sufficient to find it useful. All theories of democracy can find it to be necessary. The classification of democracies and dictatorships can be interpreted as one component of a broader characterization including other features of political regimes. In this case, DD holds not only validity, but also reliability (Cheibub et al. 2010: 74). Finally, because DD is based on observational data, it is reproducible. This is a characteristic that is not present in any other existing measures of political regimes (Cheibub et al. 2010: 97).

One consequence of the minimalist definition of democracy described above is that we do not know if all regimes that satisfy these criteria are in fact democracies. Botswana is an example. Government offices in Botswana are filled by elections, and there are competing parties. There is little repression and there are no exceptional allegations of fraud. Thereby, by the requirements for democracy described above, Botswana should be categorised as a democracy. However, the ruling party of Botswana has held office since independence, and we cannot know if they will hold elections if they are not sure to win, or if they are willing to leave office if they lose an election. In situations like this one must either take the risk of committing the error of excluding as democracies countries that are in fact democracies (type 1 error) or including as democracies countries that are not democracies (type 2 error) (Przeworski et al. 2000). (Botswana is categorized as a dictatorship in the dataset).

Table 4.2. Descriptive statistics, democracy:

Democracy	Freq.	Percent	Cum.
0 Dictatorship	4433	56.28	56.28
1 Democracy	3444	43.72	100.00
Total	7877	100.00	100.00

4.11 Authoritarian regime types

The independent variable is authoritarian regime type. The data from Hadenius and Teorell (2007) have five main categories: Military regime, Monarchy, no-party regime, one-party regime and limited multiparty regime. I will use three of these categories in the analysis: military regimes, one-party regimes and limited multiparty regimes.

I use Hadenius and Teorell's (2007) regime typology for categorizing different authoritarian regime types. This typology is based on Barbara Geddes's (1999 seminal contribution on the field of regime typology. The data of Hadenius and Teorell has some considerable improvements. First, it covers some regime types that Geddes omits: monarchies and competitive autocracies. Second, it does not treat "personalism" as a regime type, but as something more or less present in the regime types mentioned. Third, it distinguishes between true one-party regimes and dominant party regimes. Limited multiparty regimes with one dominant party seem to have many of the same characteristics as true one-party regimes. This is done by controlling for party dominance within the limited multiparty regimes by creating a sub category containing parties taking more than two thirds of the vote, and a continues variable, the proportion of seats held by the largest party within the limited multiparty system (Hadenius and Teorell 2007: 145).

Table 4.3. Descriptive statistics, authoritarian regime type:

Regime type	Freq.	Percent	Cum.
Limited multiparty	1454	21.88	21.88
One-party regime	810	12.19	34.07
Military regime	424	06.38	40.45
Total	2688	40.45	

4.12 Oil

The interaction variable is oil rents. The interaction term is included in order to investigate the interaction effect of oil rents on the three authoritarian regime types; military regimes, one-party regimes and limited multiparty regimes. As discussed in earlier chapters, oil as such is not affecting political regime. It is the causes of an economy based on oil revenues that seems affect political regime. This is why oil is simply not measured as oil extraction or oil export itself. The economic effect of oil is defined as rents, which is measured as the oil export to total export ratio. The ratio is made of the two following variables: oil net export and total export[6]. The variables are taken from the Quality of governance dataset and the amounts are in millions US dollar.

Table 4.4. Descriptive statistics, oil export to total export ratio.

Variable	Obs	Mean	Std.Dev.	Min.	Max
Oil export to total export ratio	2402	.169	.728	-2.079	5.656

As table 4.4 shows, the maximum oil rate is 5.6, even though this should not be possible. A look at the data reveals that this applies for some years in typically large oil exporters. Why some countries in some years are observed with a higher oil export than total export is difficult to tell. This problem also holds for the imputed values of the oil ratio variable. After imputation some "unrealistic" values can occur because they can be the imputation model

[6] The total export variable is converted into constant 2000 US. dollars using the inflation conversion factor (oregonstate.edu/cla/polisci/sahr/sahr).

does not take into account substantial barriers like for example that a share or a ratio cannot be higher than one. I argue that the best solution to this is setting all values over one on the imputed oil ratio variable as one. The same problem holds for the imputed variable for economic inequality (The Gini index) which runs from 0-100. I make limits to this variable as well by coding all values under 0 and over 100 to respectively 0 and 100. Doing this will not really affect the outcome of the analysis because the imputed values outside 0-100 are impossible. Hence, values below 0 might be mathematically correct for really unequal countries, but in reality the value would have been 0.

4.13 Control variables

The following section is a review of the control variables included in the analysis. One subtitle form of selection bias is omitted variable bias, which is the exclusion of some variable that may influence a causal connection between the explanatory variables and the variable we want to explain (King, Keohane and Verba 1994: 28). The control variables are theoretically and empirically linked to democratization in the literature, and are included in order to control for omitted variable bias. The control variables are; GDP per capita, economic inequality, ethnic tension, Islam, Middle East and North Africa.

4.13.1 GDP per capita

As argued, democracy is associated with economic development. In short, poor countries tend to have authoritarian governance and rich countries tend to be democratic. The specific mechanisms of this link is somehow uncertain in the literature, but according to Przewoski et al. (2000) this relationship is evident because countries are more likely to stay democratic in a wealthy society, and not because of economic development under authoritarian rule. In other words, the link between development and democracy is endogenous, meaning that democracy is also likely to affect development. This exact relationship is however not crucial to the analysis of this thesis, as long as I control for the possible effect of development on democratization. One widely accepted measure of level of development is GDP per capita. I implement the variable, operationalized as real GDP per capita in order to control for the

effect of development. The variable is taken from Gleditsch – expanded trade and GDP data and found in the Quality of government dataset.

4.13.2 Growth

Economic performance affects the likelihood of regime breakdown in both democracies and autocracies. Positive growth increases regime duration and negative growth increases the likelihood of regime breakdown (Przeworski et al. 2000: 106-116). Hence, I include a variable operationalized as GDP per capita growth in percent from World development indicators, found in the Quality of government dataset.

4.13.3 Economic inequality

According to Dunning (2008) economic inequality seems to be the most important indicator affecting weather oil rents have a positive or negative effect on the probability of democratic transition. I include a control variable for economic inequality operationalized as score on the Gini index (high values means high inequality), taken from the Quality of government dataset.

4.13.4 Ethnic fractionalization

It is a reasonable assumption that countries with high ethnic fractionalization have more conflicts, and that this leads to instability that can be negative for democratization. It is also likely that democracies to a larger extent can temper the level of conflict. When everyone has the freedom of speech and right to protest, vote and be represented, conflicts are likely to be less violent. Statistical research on ethnic heterogeneity and conflict level shows that ethnic tension leads to higher levels of conflict in authoritarian regimes than in democracies, see (Mousseau 2001). I include a control variable for ethnic fractionalization from Alesina, Devleeschauwer, Easterly, Kurlat & Wacziarg, measuring the probability that two randomly selected people belong to different ethnolinguistic group. Higher numbers means higher level of ethnic fractionalization.

4.13.5 Islam

The variable Islam is measured by the Muslim percentage of the state's total population. Studies suggested that states with a large Muslim population are less democratic than states with a small Muslim population. Among all world religions, Islam is tested to have the most statistically significant influence on a state's regime type (Ross 2001: 338). The variable is taken from La Porta, López-de-Silanes, Shleifer and Vishny, and found in the Quality of government dataset.

4.13.6 Middle East and North Africa

The attitude towards democracy in a country's region and neighbouring countries is known to have an impact on the probability of democratization (Carothers 2007, Pratt 2007, Brynen 1995). Being a country in the Middle East and Northern Africa is therefore likely to affect the probability of democratic transition in statistical analysis. I include this regional aspect by generating a dummy variable "Middle East and North Africa" based on Hadenius and Teorell's "Region of the county" in the quality of government dataset.

4.14 Summary

In this chapter I have presented the research design of the analysis. I argued that a quantitative design is the best way of making general inference about how oil affects the probability of democratic transition in different regime types. In order to do that, one needs to look at a large number of units. Analysing time-series cross-section data allows me to look at repeated observations of the same countries over time, discovering effects both over time and between countries. I have presented the dependent, independent and interaction variable, and also the control variable of the analysis. A summary statistics of these variables is presented in table 4.5 and 4.6.

Table 4.5. Summary statistics: 1960-2010 non-imputed data.

Variable	Obs.	Mean	Std. Dev.	Min.	Max
Democracy	7784	.439	.496	0	1
Reg. type	3992	1.185	1.100	0	3
Oil exp. ratio	2402	.169	.728	-2.079	5.656
GDP	7216	7168.279	8123.908	170.55	84408.23
Growth	6966	2.035	6.061	-50.290	92.585
Inequality	818	42.659	10.096	20.960	74.330
Ethnic frac.	8036	.445	.262	0	.930
Muslim	8432	22.522	35.519	0	99.9
Region	8432	.118	.323	0	1

Table 4.6. Summary statistics: 1960-2010 imputed data[7].

Variable	Obs.	Mean	Std. Dev.	Min.	Max
Imputed Oil exp. ratio	10708	.160	.464	-6.281	1
Imputed growth	10708	4.019	5.251	-51.030	106.279
Imputed Inequality	10708	39.024	7.890	0	100

[7] The number of observations for imputed values are higher than the unimputed because the imputation process imputes all possible values, also countries that did not exist in the actual year as f. ex. Serbia before 1990. These values will not be part of the analysis.

Chapter 5

Analysis

In this chapter I present the results from the statistical analysis. First I go through the stages of the analysis, before I present some descriptive statistics. Then, I present the basic model without oil rents, before I present the analysis with the interaction term of oil rents. I also make a marginal effect plot in order to interpret the effect of oil rents on the probability of democratization in a substantially more meaningful way. In the end of the chapter there is a discussion of the results.

The background for this thesis is the oil curse, which claims that oil makes democratization less likely. As presented earlier, the aim of this thesis is to investigate if the oil curse is valid for the three authoritarian regime types: limited multiparty regimes, one-party regimes and military regimes. Previous investigation of the oil curse does not take different authoritarian regime types into account. I argue that the institutional differences of the regime types could make a difference in how oil rents affect the possibility of democratic transition. As presented in chapter three, I hypothesize the causal mechanisms of the oil curse to be stronger in one-party regimes than in the two other regime types, and stronger in limited multiparty regimes than in military regimes. Though, I expect the oil curse to be valid for all authoritarian regime types.

5.1 Stages of the analysis

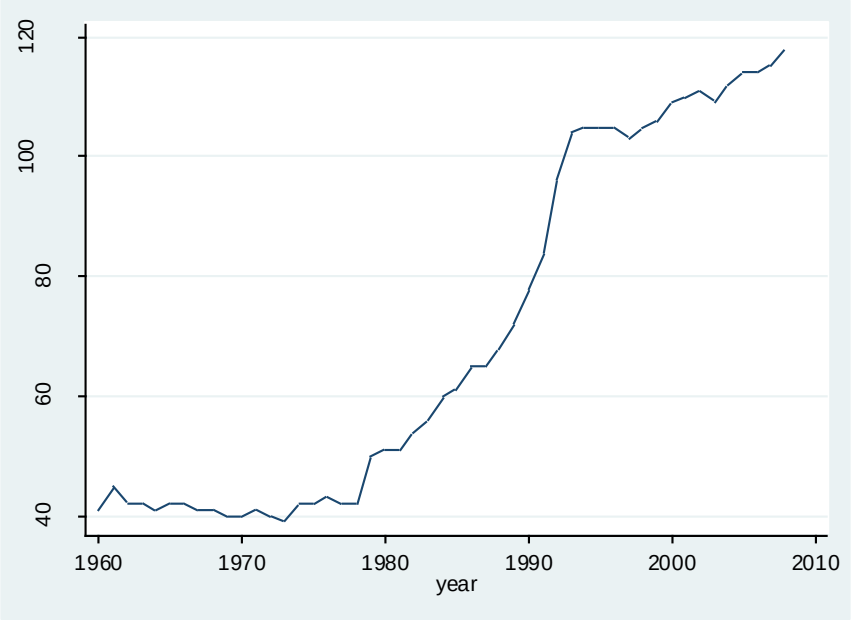
Before the results of the probit regression are presented, I present some descriptive statistics. The probit regression is done in two stages. First I present the results from the basic model, without oil as conditional effect. Second, I present the results from the probit regression with the conditional effects of oil. I construct three interaction terms: one for each authoritarian regime type interacted with oil rents. By defining in turn each of the regime types as reference category, I am able to analyse the effect of oil rents in different regime types, compared to

each other. I also make marginal effect plots for the predictive marginal effects of different levels of oil rents in the different regime types.

5.2 Descriptive statistics

Before I turn to the results of the analysis I take a closer look at the data. Figure 5.1 shows the total number of democracies in the world from 1960-2010. As the figure shows, the number of democracies started to increase rapidly in the late 1970's, increasing up until around 1990. This is what is called the third wave of democratization, initiated by the democratic transitions in Southern Europe from the midt 1970's as described in chapter 1. The large increase in the number of democracies during the 1980's is mainly caused by the fall of military regimes and democratic transitions in Latin America see (Caroters 2002) in the early 1980's and the fall of communist states in Eastern Europe in the late 1980's.

Figure 5.1. Number of democracies in the world from 1960-2010:



5.3 Oil rents and probability of democratization

As presented in chapter three, differences between authoritarian regime types cause them to break down in systematically different ways which affect transition outcomes (Geddes 1999). Geddes finds that limited multiparty regimes transition most often to democracy, while military regimes and one-party regimes transition to democracy with approximately the same frequency (Geddes 1999: 121). As presented in the descriptive statistics the number of democratic transitions between 1960 and 2010 for the three regime types are: 22 for limited multiparty regimes, 11 for one-party regimes and 23 for military regimes. The basic probit regression model shows the probability of democratic transition for the three regime types, controlled for GDP, Growth, economic inequality, ethnic fractionalization, Islam and Middle East and North Africa. The extended regression shows the probability of democratization for the three regime types with the conditional effect of oil with the respective regime types as reference categories.

Before I move to the output of the analysis, I take a look at the interpretation of probit coefficients. If the coefficient on X is 0.567, it means that a one percent increase in X will raise the probability of Y=1 by 0.567. This holds for continues variables. In case of regime type (categorical variable), the coefficients express how the probability of Y=1 changes when moving from the reference category to the category of choice. All regime types are in turn treated as reference category in order to compare them. As table ?? shows, limited multiparty regimes have the highest probability of democratic transition compared to the category "others". This category is made up by all other authoritarian regime types than the three represented in the analysis. Examples of regime types of this category are monarchies, no-party regimes and some hybrids. One-party regimes on the other hand have much less probability of democratizing than "others". Both these results are statistically significant on a one-percent level[8]. Going from the category "others" to limited multiparty regime raises the probability of democratization by more than 1, while going from "others" to one-party regime lowers the probability of democratization by -0.785.

Looking at limited multiparty regimes as reference category, military regimes and one-party regimes both are significant and take negative signs, which means that limited multiparty

[8] I follow the standard of accepting results on a five-percent level of significance = P<0.05.

regimes have the highest probability of democratization of the regime types under investigation. This is in line with what is known about democratization in the different regime types, discussed in chapter three. The output on table 5.1 also confirms what is known from the literature and the descriptive statistics; military regimes have a higher probability of democratic transition than one-party regimes also when the effect of the control variables are controlled for.

Table 5.1: Results of probit regression on the probability of democratization for different regime types without the conditional effect of oil.

Democracy	Other reg. types as reference category	Limited multiparty as reference cat.	Military as reference category	One-party as reference category
Others		-1.001***	0.172	0.785***
		(0.080)	(0.141)	(0.158)
Limited multiparty	1.001***		1.173***	1.786***
	(0.080)		(0.128)	(0.147)
Military	-0.172	-1.173***		0.613***
	(0.141)	(0.128)		(0.186)
One-party	-0.785***	-1.786***	-0.613***	
	(0.158)	(0.147)	(0.186)	
Oil ratio	-.802***	-0.791***	-0.005	-1.191**
	(0.176)		(0.275)	
Growth	-0.005	-0.005	-0.005	-0.005
	(0.004)	(0.004)	(0.004)	(0.003)
Inequality	0.040***	0.040***	0.040***	0.040***
	(0.004)	(0.004)	(0.004)	(0.049)
Ethnic frac.	-0.687***	-0.687***	-0.687***	-0.687***
	(0.138)	(0.138)	(0.138)	(-0.415)
Muslim	-0.002*	-0.002*	-0.002	-0.002*
	(0.001)	(0.001)	(0.001)	(-0.000)
NA. ME.[9]	-0.426**	-0.426**	-0.426*	-0.426**
	(0.158)	(0.158)	(0.158)	(-0.117)
Const.	-2.538***	-1.537***	-2.710***	-3.323***
	(0.193)	(0.190)	(0.214)	(-2.892)

Standard errors in parentheses.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[9] North Afrika and The Midle East

Table 5.2 shows the results from the probit regression with the conditional effect of oil included. It shows that the interaction term of military regimes with oil rents turns out significant and takes positive signs with all other regime types as reference category. This indicates that oil rents have a stronger negative effect on one-party regimes and limited multiparty regimes than on military regimes. This is partly in line with the theoretical assumptions I make in chapter three (see Magaloni and Kricheli 2010 and Devenport 2007) that oil rents will have a stronger negative effect on democratization in one-party regimes because of the strong rent seeking mechanisms of what is called "the tyrannical peace" in one-party regimes. Hence, I can say that hypothesis 5: *the effect of oil on the probability of democratization is stronger in limited multiparty regimes than in military regimes* is supported so far.

The table also indicates that oil has a stronger negative effect in one-party regimes than in limited multiparty regimes, but the result does not turn out significant. Hence, hypothesis 4 *the negative effect of oil on the probability of democratization is stronger in one-party regimes than in military regimes and limited multiparty regimes* cannot be supported.

Table 5.2: Probit regression with the conditional effect of oil.

Democracy	Other reg. types as reference category	Limited multiparty as reference cat.	Military as reference category	One-party as reference category
Others*oil		-0.010	-0.797*	0.389
		(0.200)	(0.322)	(0.428)
Limt. Multiparty*oil	0.010		-0.786**	0.400
	(0.200)		(0.294)	(0.407)
Military*oil	0.797*	0.786**		1.186*
	(0.322)	(0.294)		(0.480)
One-party*oil	-0.389	-0.400	-1.186*	
	(0.428)	(0.407)	(0.480)	
Growth	-0.005	-0.005	-0.005	-0.005
	(0.004)	(0.004)	(0.004)	(0.003)
Inequality	0.040***	0.040***	0.040***	0.040***
	(0.004)	(0.004)	(0.004)	(0.049)
Ethnic frac.	-0.687***	-0.687***	-0.687***	-0.687***
	(0.138)	(0.138)	(0.138)	(-0.415)
Muslim	-0.002*	-0.002*	-0.002	-0.002*
	(0.001)	(0.001)	(0.001)	(-0.000)
NA. ME.	-0.426**	-0.426**	-0.426*	-0.426**
	(0.158)	(0.158)	(0.158)	(-0.117)
Constant	-2.538***	-1.537***	-2.710***	-3.323***
	(0.193)	(0.190)	(0.214)	(-2.892)

Standard errors in parentheses.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

According to the discussion in chapter four, it can be difficult to interpret the coefficients of interaction models substantially, and even more difficult when there is a probit model. To really see the marginal effects, the probability of democratization when oil rents have different values, one has to look beyond the regression table. Tabel 5.3 shows the marginal effects of the predicted probabilities of democratization for different levels of oil rents in the three regime types.

The marginal effects in table 5.3 shows that the predicted probability of democratization goes down the higher the level of oil rents for all three regime types, except for military regimes. Even though the margin turns out significant and goes down from 0.062 to 0.063 when oil rents are higher than 0.6, this is a very small change, and the margin does not change at all between oil rents of 0 to 0.4 and 0.4 to 1. The predicted probability for limited multiparty turns out significant and goes down from over 0.3 when oil rents are 0 down to 0.12 when oil rents are 1. The probability of democratization for limited multiparty regimes also goes down the more oil rents there is. For one-party regimes, the predicted probability of democratization is as low as 0.018 when oil rents are 0 and goes down to almost 0 when oil rents are 1. The margins of one-party regimes are not significant when oil rents are above 0.2.

In the case of limited multiparty regimes, this means that hypothesis 3 can be supported. The oil curse seems to be valid for this regime type. The predicted probability of limited multiparty regimes has the largest decrease in predicted probability from oil rents of 0 to 0.2, indicating that the effect of oil, as expected, is not linear in this regime type, even if the predicted probability is going down the more oil rents there are.

The margins for military regimes turn out significant, but the predicted probability of democratization does (almost) not decrease with higher oil rents. Hence, hypothesis 1 is rejected. It seems that the oil curse is not valid in military regimes. This is in line with the outputs of table 5.2 which shows that the effect of oil rents are stronger in the two other regime types than in military regimes.

The margins of one- party regimes do not turn out significant on oil rents higher than 0.2. Hence, hypothesis 2 can only be partly supported, because it can be claimed that the hypothesis is supported when oil rents are between 0 and 0.2, and the results are statistically significant. The margins indicate some effect of oil, but the probability is very low from the beginning. The reason why the results not turn out significant with oil rents higher than 0.2

can be that there are too few observations of one-party regimes with high oil rents, hence the results turn out insecure.

Table 5.3. Marginal effects of the predicted probability of democratization with different levels of oil rents.

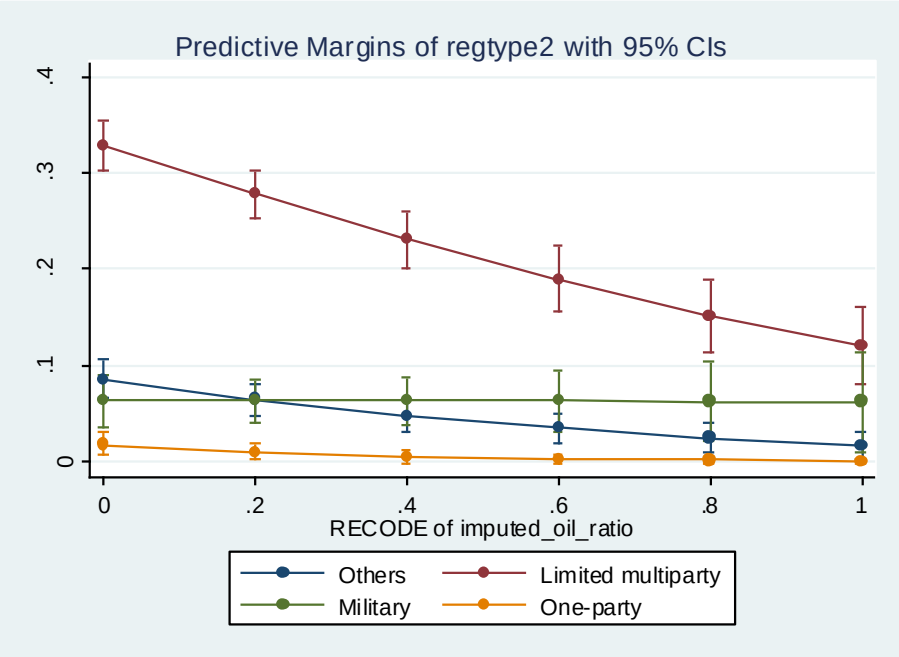
	Margin		
Oil rents	Limited multiparty	Military	One-party
0	0.328***	0.063***	0.018**
	(0.013)	(0.014)	(0.005)
0.2	0.277***	0.063***	0.010*
	(0.012)	(0.011)	(0.004)
0.4	0.231***	0.063***	0.005
	(0.015)	(0.012)	(0.003)
0.6	0.189***	0.062***	0.002
	(0.017)	(0.016)	(.002)
0.8	0.152***	0.062***	0.001
	(0.019)	(0.021)	(0.001)
1	0.120***	0.062*	0.000
	(0.020)	(0.026)	(0.001)

Standard errors in parentheses.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In figure 5.2 it is easy to see the predicted margins of the different regime types. The red line shows the negative effect of oil on the probability of democratization in limited multiparty regimes. The green horizontal line of military regimes shows that oil rents have no real effect on the probability of democratization. The yellow line of one-party regimes shows a negative but weak effect of oil rents.

Figure5.2. Marginal effects for the probability of democratization in different regime types:



Looking at the marginal effects in figure 5.2 one can say that the oil curse is present in all regime types except in military regimes. The negative effect of oil on the probability of democratization seems to be strongest in limited multiparty regimes, but limited multiparty regimes also have the highest probability of democratizing in the first place. Hence, there is a larger potential effect, since these regimes are less authoritarian in design. The margins for one-party regimes also show a negative effect of oil on democratization (even though the results are not significant), but the predicted probability show a relatively small decrease as oil rents increase. The probability of democratization in one-party regimes though, is low already with oil rents on 0, so there is obviously limited by how much it can decrease. Though, the predicted probability is significant with oil rents from 0 to 0.2, indicating that the oil curse is present also in one-party regimes. So why does oil seem to have no effect on democratization in military regimes? Turning to the theory, military regimes seem to be fragile and have a short life expectancy and military officers may place higher value on the survival and efficacy of the military itself than in staying in office for as long as possible (Geddes 1999). Because of this it may be that the rentier effect of oil is not so strong in these

regimes because, if the will of staying in power is lower than in other regimes they will not make use of the rents in the same way as for example limited multiparty regimes. Another aspect is that military regimes may not need to buy of military officers in the same way as a civilian authoritarian government. Military regimes are neither as dependent of keeping up the popularity as limited multiparty regimes, as discussed earlier. Money from rents can be more important for regime survival when the regime actually have to stay popular among a large share of the population to avoid losing elections.

5.4 Summary

In this chapter I have presented the results of the statistical analysis. The aim of the thesis was to investigate the oil curse in the three authoritarian regime types: limited multiparty regimes, military regimes and one-party regimes. This chapter shows the probit regressions and marginal effects of how oil rents affect the probability of democratization in the regime types. The first three hypotheses derived from chapter three where that the oil curse is valid for all three regime types. The results from the analysis shows that H1: *the oil curse is valid for military regimes* is rejected (I argue that the change of 0.001 in predicted probability of democratization from oil rents of 0.4 to 0.6 means that there is practically no effect, especially when there is no other changes of the predicted margins). The result for this regime type turns out significant, with no effect of oil rents on democratization. The results for one-party regimes do not turn out significant, and H2: *the oil curse is valid for one-party regimes*, cannot be supported, nor rejected. The results of the predicted margins for limited multiparty regimes turn out significant and shows a negative effect of oil on the probability of democratization, hence H3 *the oil curse is valid for limited multiparty regimes* is supported. The analysis also shows that the effect of oil rents is stronger in limited multiparty regimes than in military regimes. The results also indicates that the oil curse is stronger in limited multiparty regimes than in one-party regimes, but since the results for one-party regimes are not statistically significant, I cannot claim that the H4 is supported. In the next chapter I will go briefly through some robustness tests in order to evaluate the uncertainty of the results of the analysis.

Chapter 6

Robustness tests

In this section I will briefly go through some robustness tests in order to evaluate the uncertainty of the results of the analysis. I will comment on how different operationalisations and different lag-structures affect the results. I will also test for multicollinearity and influential cases and outliers.

6.1 Different operationalisation

In chapter one and four I argued why I prefer a minimalist definition and operationalisation of democracy (Alvarez et al. 1996) and (Przeworski et al. 2000). The dichotomous variable of democracy offered from the DD dataset (ACLP index) is based on a qualitative classification of democracy (Cheibub 2010: 74) and makes it easier to specify the causal mechanisms that link regime and the outcomes of interest (Cheibub 2010: 73). Despite this argument, it is possible that some aspects of the ACLP index affect my results. Another widely used operationalisation of democracy is the Polity index. In order to see if the results change significantly, I run the analysis with the Polity index as dependent variable. The index goes from -10 (least democratic) to 10 (most democratic). I follow most scholars using the Polity index in probit or logit analysis and dichotomize the variable by coding all values of 6 or more (Hadenius and Theorel 2007) as democratic.

The results of the probit regression with the Polity index as dependent variable does not substantially change the main findings of the analysis (see the table in appendix B). The directions of the coefficients do not change direction except the coefficient between one-party regimes and other regime types. This coefficient is still not statistically significant. I interpret this as one-party regimes are sensitive to model specifications because this category has quite few observations, and especially few democratic transitions. The predicted probability of democratization on different levels of oil rents (marginal effects) comes out with the same main findings. The probability of democratization decreases as the level of oil goes up for all regime types except for military regimes. The graph is found in the appendix.

6.2 Different lag-structures

I run the original model with a one-year lag on the dependent variable democracy. This model captures the actual democratic transition by analysing all other variables one year before the transition. In order to test if my results also hold for more established democracies I change the variable democracy to a five year lag.

I run the probit regressions with the democracy variable lagged five years instead of one as in the original analysis. When changing the lag of democracy from one to five years none of the coefficients change direction. The coefficients change within the same direction, but the results do not change the main findings of the analysis, nor change the view on the hypothesis. The statistical significance is actually improved on many coefficients, but the coefficients between limited multiparty regimes and one-party regimes are still insignificant. A look at the marginal effect plot reveals the same patterns as the original analysis, but with higher probability of democratization in most levels of oil rents. The probability of democratization still decreases when oil rents increase in all regime types except for military regimes, as in the analysis with one year lag. In the case of military regimes the predictive margins is slightly increasing as oil rents increase. I take this as an indication of robust findings in my model, but that different lag-structures can improve the statistical significance. The results also hold for democracies surviving for more than one year. The result tables of the probit regression and the marginal effect plot with a five year lag on democracy is found in the appendix.

6.3 Multicollinearity

Collinearity means that two variables are near perfect linear combinations of each other. When there are more than two variables involved it is called multicollinearity. The-VIF test (variance inflation factor) tests for multicollinearity (ats.ucla.edu). I run the VIF-test to check for multicollinearity and find no results that indicate problems of multicollinearity. As a rule of thumb, values less than 10 (tolerance of 1/VIF) are considered ok (ats.ucla.edu). I find no values over 2.23 and consider multicollinearity not to be a problem in my analysis.

6.4 Influential cases and outliers

Influential cases and outliers are a possible problem for the model if there are atypical observations that drive the results. A specific measure for the influence of outliers is the dfbeta measure. This is a measure for how each coefficient is changed by deleting the observation (ats.ucla.edu). I produce dfbeta variables for each of the predictors in STATA, and run a scatter plot, to see if there are any observations that I need to investigate further in case of driving the results too much. The scatter plot is found in the appendix. A dfbeta value excessing 2/sqrt(n) requires further investigation (ats.ucla.edu) In the case of this analysis it means values excessing 2/sqrt(3502) = +/- 0.033. As can be seen in the scatter plot in appendix B, none of the dfbeta values exceeds 0.030 and I consider my analysis not to be driven too much by outliers or atypical observations.

6.5 Summary

In this chapter I have done some robustness tests in order to evaluate the uncertainty of my analysis. I have commented on how different operationalisations and different lag-structures affect the results, and tested for multicollinearity and influential cases and outliers. Changing the operationalization of democracy using the Polity index does not change the main findings of the analysis. Changing the lag structure from one to five year lag on democracy did not change the results of negative effects of oil on the probability of democratization in the three regime types, but some of the coefficients got increased statistical significance. The test for multicollinearity and influential cases and outliers showed that neither of these potential problems drives the results of the analysis.

Chapter 7
Concluding remarks

This thesis has been guided by the two following research questions: 1) is the oil curse valid for the three authoritarian regime types: limited multiparty regimes, military regimes and one-party regimes? 2) Are the antidemocratic effects of oil rents stronger in some types of authoritarian regimes than others? In this chapter I will complete the thesis by going through the hypotheses and summing up the major findings. I will also address some theoretical implications of the findings and suggest some paths for further research.

7.1 Hypotheses

I will now go through the hypothesis and comment the results of the analysis.

H1: the oil curse is valid for military regimes

The results of the probit analysis and the marginal effect plot came out significant on military regimes. The predicted margins on the effect of oil showed that the probability of democratization did not change with more oil rents, finding that the oil curse is not valid for this regime type. H1 has to be rejected.

H2: the oil curse is valid for one-party regimes

The predicted margins for one-party regimes came out significant with oil rents from 0 to 0.2, suggesting that the oil curse is valid for one-party regimes, but H2 can only be partly supported. Because of lack of significant results, H2 cannot be supported with oil rents larger than 0.2.

H3: the oil cure is valid for limited multiparty regimes

The predicted margins are statistically significant and show a strong negative effect of oil on the probability of democratization in limited multiparty regimes. H3 is supported.

H4: The negative effect of oil on the probability of democratization is stronger in one-party regimes than in military regimes and limited multiparty regimes.

The result of the analysis shows that the negative effect of oil is stronger in one-party regimes than in military regimes. Both the probit regression and predicted margins turn out significant and confirm this. The probit regression for one-party regimes with limited multiparty regimes as reference category (and opposite) indicate a negative effect of oil going from limited multiparty regimes to one-party regimes, but do not come out significant. These results indicate that the negative effect of oil is stronger in one-party regimes than in limited multiparty regimes, but H4 cannot be supported because of insignificant results.

H5: The negative effect of oil in the probability of democratization is stronger in limited multiparty regimes than in military regimes.

Both the result from the probit regression and the predicted mrgins show that the negative effect of oil on the probability of democratization is stronger in limited multiparty regimes than in military regimes. As commented above, the effect of oil in military regimes was almost zero. H5 is supported.

7.2 Summary

The analysis finds partial support for my hypotheses. The main empirical findings are that the oil curse seems to be valid for limited multiparty regimes and (partly) for one-party regimes. The oil curse does not seem to be present in military regimes. Hence the effect of oil rents is stronger in both limited multiparty regimes and one-party regimes compared to military regimes. The analysis finds a significant negative effect of oil rents (at low levels of oil rents) also in one-party regimes, even if the probability of democratization in general is very low in these regime type.

7.3 Theoretical implications and further research

The empirical findings of this thesis give support for the oil curse (see Ross 2001, 2012) in two of the three investigated regimes types. The oil curse seems to be valid for limited multiparty regimes and one-party regimes, but there is no evidence for a negative effect of oil in military regimes. The thesis reveals some new features on the oil curse in different regime types. However, further research should expand the number of regime types, and look at for example different types of hybrid regimes. Another objective for further research should be investigating the causal effects of the oil curse in different regime types more directly. This could reveal important features to the oil curse theory.

Separating authoritarian regime types in this thesis has given some new empirical information about the oil curse theory. Future research of oil and democratization should focus on what aspects of military regimes that make this regime type "immune" against the oil curse. One possible explanation which should be investigated further is that many of the military regimes that have made democratic transitions are Latin American. It is suggested by Dunning (2008) that in countries with great economic inequality, the effect of oil on the probability of democratization turns positive.

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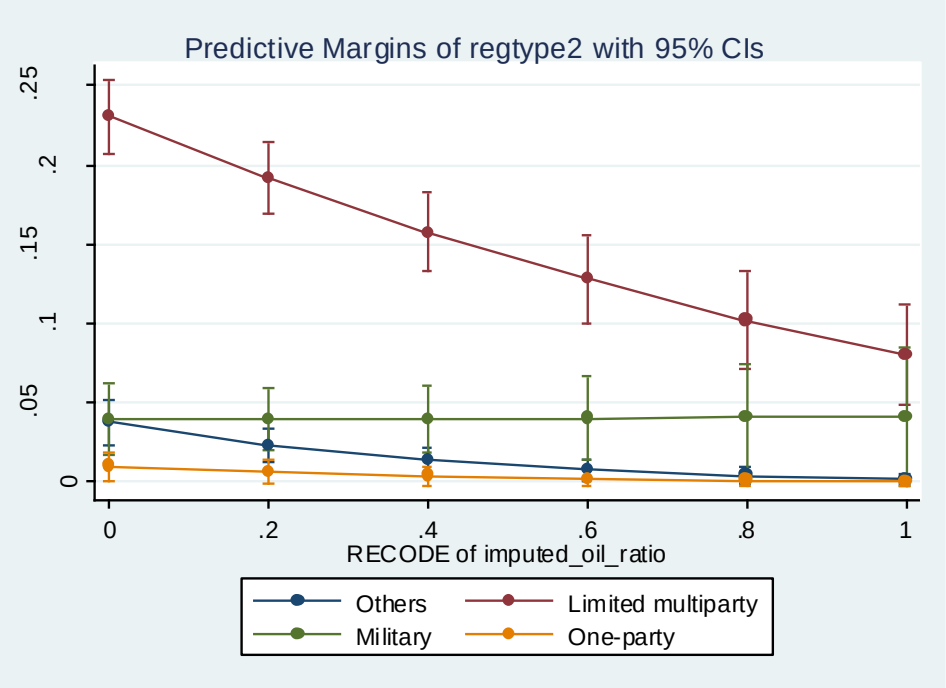
The inflation conversion factor: http://oregonstate.edu/cla/polisci/sahr/sahr.

Appendix A. Dataset and Do-files

Dataset and do-files from STATA, and information about the multiple imputation process, will be provided upon request. Contact: magnusbdal@gmail.com

Appendix B Tables and figures from the robustness tests

Predictive margins of regime type and probability of democratization with different levels of oil rents (Polity index as democracy):



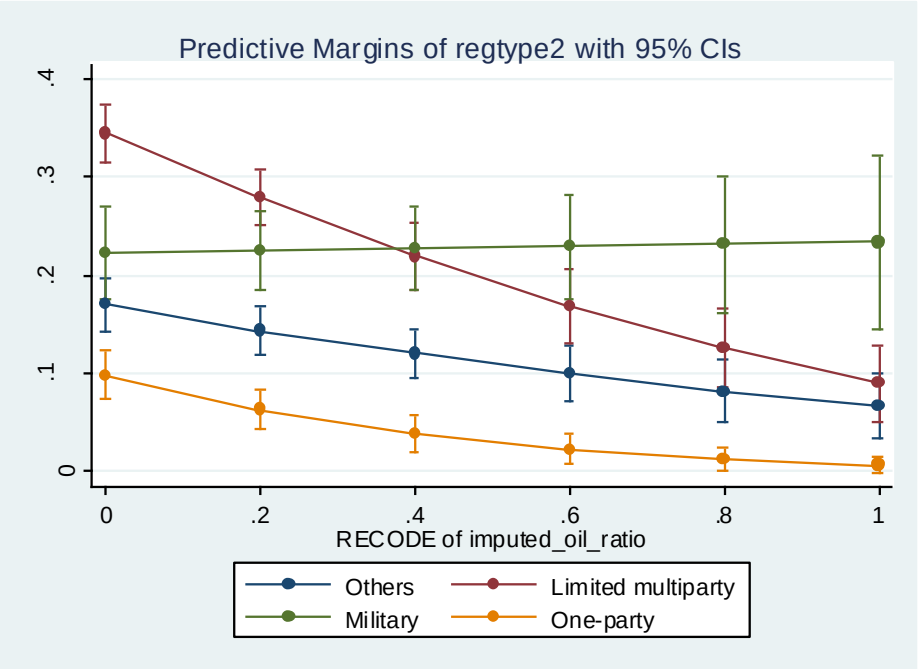
Probit regression with the conditional effect of oil, Polity index as democracy variable:

Democracy	Other reg. types as reference category	Limited multiparty as reference cat.	Military as reference category	One-party as reference category
Others*oil		-0.430 (0.249)	-1.167** (0.393)	-0.270 (0.458)
Limt. Multiparty*oil	0.430 (0.249)		-0.736* (0.339)	0.159 (0.413)
Military*oil	1.167** (0.393)	0.736* (0.339)		0.896 (0.511)
One-party*oil	0.270 (0.458)	-0.159 (0.413)	-0.896 (0.511)	
Growth	-0.008 (0.004)	-0.008 (0.004)	-0.008 (0.004)	-0.008 (0.004)
Inequality	0. 044*** (0.004)	0.044*** (0.004)	0.044*** (0.004)	0.044*** (0.004)
Ethnic frac.	-0.975*** (0.157)	-0.975*** (0.157)	-0.975*** (0.157)	-0.975*** (-0.157)
Muslim	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (-0.001)
NA. ME.	-0.143 (0.156)	-0.143 (0.156)	-0.143 (0.156)	-0.143 (0.156)
Constant	-3.084*** (0.222)	-1.966*** (0.207)	-3.064*** (0.239)	-3.661*** (0.255)

Standard errors in parentheses.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Predictive margins of regime type and probability of democratization with five year lag with different levels of oil rents:



Probit regression with the conditional effect of oil, five year lag on democracy:

Democracy	Other reg. types as reference category	Limited multiparty as reference cat.	Military as reference category	One-party as reference category
Others*oil		0.426*	-0.623**	0.683**
		(0.188)	(0.231)	(0.262)
Limt. Multiparty*oil	-0.426*		-1.049***	0.256
	(0.188)		(0.227)	(0.257)
Military*oil	0.623**	1.049**		1.306***
	(0.231)	(0.227)		(0.291)
One-party*oil	-0.683**	-0.256	-1.306***	
	(0. 262)	(0.257)	(0.291)	
Growth	-0.005	-0.005	-0.005	-0.005
	(0.004)	(0.004)	(0.004)	(0.004)
Inequality	0. 031***	0.031***	0.031***	0.031***
	(0.004)	(0.004)	(0.004)	(0.004)
Ethnic frac.	-0.659***	-0.659***	-0.659***	-0.659***
	(0.004)	(0.004)	(0.004)	(-0.004)
Muslim	-0.003**	-0.003**	-0.003**	-0.003**
	(0.001)	(0.001)	(0.001)	(-0.001)
NA. ME.	-0.586**	-0.586**	-0.586**	-0.586**
	(0.146)	(0.146)	(0.146)	(-0.146)
Constant	-1.694***	-1.094***	-1.486***	-2.054***
	(0.182)	(0.188)	(0.191)	(0.177)

Standard errors in parentheses.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Vif-test:

```
. vif
    Variable |       VIF       1/VIF
-------------+----------------------
  nafr_meast |      2.23    0.447940
 lp_muslim80 |    2.07    0.482359
imputed_gini |    1.39    0.718092
   al_ethnic |       1.38    0.725461
imputed_oi~o |   1.32    0.758247
    regtype2 |       1.17    0.855243
imputed_gr~p |   1.03    0.973655
-------------+----------------------
    Mean VIF |      1.51
```

Scatter plot from the dfbeta-test of influential cases and outliers: